

Exhibit 2

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF VIRGINIA
Alexandria Division

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: :
SONY MUSIC ENTERTAINMENT, et al., :
Plaintiffs, :
: :
-vs- : Case No. 1:18-cv-950
: :
COX COMMUNICATIONS, INC., et al., :
Defendants. :
: :
-----:

VOLUME 2 (P.M. Portion)

TRIAL TRANSCRIPT

December 3, 2019

Before: Liam O'Grady, USDC Judge

And a Jury

1 APPEARANCES:

2 FOR THE PLAINTIFFS:

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1 A F T E R N O O N S E S S I O N

2 NOTE: The afternoon portion of the proceedings on
3 December 3, 2019, begins in the absence of the jury as
4 follows:

5 JURY OUT

6 THE COURT: All right. Ready for the jury? Okay.

7 MR. OPPENHEIM: Yes.

8 THE COURT: All right. One of the jurors indicated
9 they had an important event on Thursday and they needed to
10 leave closer to 5:00, so we're going to -- I've agreed to let
11 the jury go at 5:00 on Thursday evening, just for your
12 information. Okay?

13 MR. OPPENHEIM: Are you -- I'm sorry. Go ahead.

14 MR. ELKIN: Your Honor, I just wanted -- just because
15 this may happen quickly when Mr. Gould passes the witness, I
16 just wanted to remind the Court, as I mentioned a couple weeks
17 ago and as counsel knows, as of three days ago, I intend to go
18 beyond the scope of the cross to take Mr. Marks in support of
19 our case since he's here.

20 THE COURT: Right. And that's agreed to.

21 MR. OPPENHEIM: Understood.

22 THE COURT: Yep. All right.

23 MR. OPPENHEIM: Generally, is the Court going to try
24 to go to 5:30?

25 THE COURT: Tonight? Yeah, between 5:30 and 6:00.

1 If I can push the jury to 6:00, I go to 6:00, but we got a
2 little push-back last night.

3 MR. OPPENHEIM: A little?

4 THE COURT: Yeah. We'll see how that goes. But on
5 Thursday, there's an occasion that one of the jurors has that I
6 want to honor. Okay.

7 MR. BUCHANAN: Thank you.

8 THE COURT: They are giving us a bit of their time.

9 All right. So, Joe, let's get our jury, please.

10 NOTE: At this point, the jury returns to the
11 courtroom; whereupon, the case continues as follows:

12 JURY IN

13 THE COURT: All right. Please have a seat.

14 All right. Mr. Gould, please continue, sir.

15 MR. GOULD: Thank you, Your Honor.

16 STEVEN MARKS, PLAINTIFFS' WITNESS, PREVIOUSLY SWORN

17 DIRECT EXAMINATION (Cont'd.)

18 BY MR. GOULD:

19 Q. Mr. Marks, how was your lunch?

20 A. Good.

21 Q. Great. Welcome back.

22 A. Thank you.

23 Q. You were asked some questions earlier about lawsuits
24 against Napster and Grokster. Do you recall that?

25 A. Yes.

1 Q. What kind of lawsuit or legal claim was brought against
2 Napster?

3 A. Contributory and vicarious -- contributory infringement
4 and vicarious infringement liability.

5 Q. And what kind of lawsuit or legal claim was brought
6 against Grokster?

7 A. Principally, the same.

8 Q. And what were those?

9 A. Contributory infringement and vicarious infringement.

10 Q. You were also asked some questions about lawsuits against
11 end users. Do you recall that?

12 A. Yes.

13 Q. Did RIAA try to find out some of the Cox subscribers?

14 A. Correct.

15 Q. How did Cox respond?

16 A. They --

17 MR. ELKIN: Objection.

18 THE COURT: Yeah, it was already asked and answered.
19 You're retreading old ground now. Let's move forward.

20 MR. GOULD: Understood.

21 THE COURT: Okay. Thank you.

22 BY MR. GOULD:

23 Q. Has the RIAA ever sued BitTorrent?

24 A. No. It's not really possible to sue BitTorrent because
25 BitTorrent is a protocol, not an actual company or service.

1 Q. What about eDonkey?

2 A. Same thing.

3 Q. What about Ares?

4 A. Same.

5 Q. And Gnutella?

6 A. The same.

7 Q. Has the record industry ever sued ISPs, other ISPs for
8 contributory infringement, copyright infringement?

9 A. Yes. There are a number of additional suits against other
10 ISPs that I think are either currently pending. I'm not in the
11 role anymore, so I don't know the exact stage, but they include
12 Grande, Charter, RCN, Bright House, and maybe one or two
13 others.

14 Q. I want to turn to the period starting around 2008, when
15 you said the end user lawsuits ended. Did the RIAA shift its
16 approach to battling peer-to-peer infringement at that time?

17 A. Yeah. As I explained earlier, suing individuals was not
18 something that could stop all of the infringement because there
19 were just too many people engaged in it, and so as part of, you
20 know, our effort to deal with the problem, we decided to create
21 what we called a notice program where we would send notices to
22 ISPs with information about specific instances of infringement
23 by subscribers on their networks.

24 Q. Why did you take that approach?

25 A. Well, as -- one is that the ISPs have responsibility for

1 addressing infringement on their networks, and they knew that
2 there were a lot of infringement. Everybody by this time knew
3 that P2P in particular was devastating our industry and
4 beginning to impact a lot of other industries, and so we, we
5 wanted to, you know, work mostly in partnership with them in
6 terms of, you know, giving them enough information so that they
7 can then act on that information that we were giving them by
8 taking appropriate action with respect to the subscribers, and
9 there were laws in place to, you know, deal with this and
10 address it.

11 Q. What kind of laws?

12 A. Copyright law, and in particular the Digital Millennium
13 Copyright Act, which was a law that was passed in 1998 and
14 contained provisions about how a notice program like this would
15 work, where a copyright owner could send notice to an ISP and
16 that ISP would have an obligation to address repeat
17 infringement if it wanted to take advantage of what was called
18 a safe harbor in that, in that law.

19 Q. Do you have an understanding of what the safe harbor is?

20 MR. ELKIN: Objection.

21 THE COURT: Yeah, sustained. Let's not go through
22 the law with this witness.

23 MR. GOULD: Your Honor, it's foundational for why
24 the -- if I could approach?

25 THE COURT: Yeah. Come to the sidebar.

1 NOTE: A sidebar discussion is had between the Court
2 and counsel out of the hearing of the jury as follows:

3 AT SIDEBAR

4 THE COURT: Yes, sir.

5 MR. GOULD: The intent is not to have Mr. Marks
6 testify about what the law is or means but his understanding of
7 it and why that was a foundational component of why the RIAA
8 got the notice program off the ground. The DMCA and safe
9 harbor was the critical element for why they took the approach
10 they did.

11 THE COURT: I think that's legitimate. I think why
12 they started the notice program and why they believed it was
13 the way to move forward with the ISPs, I think, is relevant.
14 He's not commenting on the law itself but why he did what he
15 did in response to the, what he understood the law to be.

16 MR. GOULD: Just to clarify so I understand the
17 parameters --

18 THE COURT: Yeah.

19 MR. GOULD: -- I do intend to ask him what his
20 understanding was of the law and why that was a motivating
21 factor, and he would say if they had a repeat infringer policy
22 that terminated, they would be insulated from liability. We
23 thought they would do that.

24 MR. ELKIN: The one thing I would say, Your Honor, is
25 that I think that the last question sort of does hinge on

1 giving the jury the instructions that Your Honor is going to
2 give at the end of the case, and I -- you know, at some point,
3 it does become blurred in terms of what his -- it's setting
4 forward his understanding of the law and the motivations and
5 basically starting to tell the jury, you know, what the law is
6 all about. That's a concern I have.

7 THE COURT: Yeah. I'm going to allow it. He's in a
8 position that he was in with RIAA, and I think he's qualified
9 to at least give his opinion and -- but the focus should be on
10 what he did in response to what he understood the law to
11 permit.

12 MR. GOULD: Okay.

13 THE COURT: But I'll allow you to ask those
14 questions.

15 Your exception is noted.

16 MR. ELKIN: Thank you, Your Honor.

17 NOTE: The sidebar discussion is concluded;
18 whereupon, the case continues before the jury as follows:

19 BEFORE THE JURY

20 BY MR. GOULD:

21 Q. Mr. Marks, do you have an understanding of what the safe
22 harbor is under the DMCA?

23 A. Yes. It's -- safe harbor is a provision that gives --
24 it's a way for a party, in this case the ISP, to avoid being
25 sued, avoid liability if they take certain actions.

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COX COMMUNICATIONS, INC., et al., :
Defendants. :
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VOLUME 3 (A.M. Portion)

TRIAL TRANSCRIPT

December 4, 2019

Before: Liam O'Grady, USDC Judge

And a Jury

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1 P R O C E E D I N G S

2 NOTE: The December 4, 2019, portion of the case
3 begins in the absence of the jury as follows:

4 JURY OUT

5 THE COURT: All right. Good morning to each of you.
6 I see that we're all present and accounted for. Good morning.
7 I hope you-all had a good evening, and I look forward to a
8 good day.

9 So any preliminary motions? Mr. Elkin.

10 MR. ELKIN: Good morning, Your Honor.

11 THE COURT: Yes.

12 MR. ELKIN: Just a brief housekeeping matter for me.
13 As you might recall, I fumbled with an exhibit during the last
14 examination, and it had to do with Defendants' Exhibit 80,
15 which was -- had another document appended to it, DX 81, and
16 we have replaced it. Your Honor has the right copy as well as
17 the counsel for plaintiffs, but I just wanted to formally move
18 into evidence a new Defendants' Exhibit 81-A.

19 THE COURT: All right. Any objection to that?

20 MR. OPPENHEIM: Very likely not, Your Honor.
21 Jeff Gould, who was handling this, is not present this
22 morning. I told Mr. Elkin I'm sure there's probably no issue,
23 but I'd like him to look at it when he gets here.

24 THE COURT: Okay. All right.

25 MR. OPPENHEIM: I can't imagine there would be a

1 problem. If there is, I'm sure we'll work it out.

2 THE COURT: All right. Let me know after you speak
3 with Mr. Gould, and we'll admit it absent further argument.

4 MR. OPPENHEIM: Thank you.

5 THE COURT: All right.

6 MR. ELKIN: Thank you.

7 THE COURT: All right. Joe, let's get our jury
8 then.

9 MR. BUCHANAN: Your Honor?

10 THE COURT: Yes, sir.

11 MR. BUCHANAN: I apologize.

12 THE COURT: Good morning, Mr. Buchanan.

13 MR. BUCHANAN: I wanted to address the issue of the
14 pulse checks. The Court reserved that. This particular
15 witness I don't think is going to testify about pulse checks,
16 but the one following, so if you'd rather reserve it to that
17 time or I could do it now.

18 THE COURT: Yeah. No, let me -- let's get rolling.
19 I'll take a look at the pulse check issue again before we
20 argue it just to refresh my own recollection.

21 MR. BUCHANAN: Okay. Thank you, Your Honor.

22 THE COURT: All right.

23 MR. BUCHANAN: And I'd just like to introduce
24 Michael Brody. You probably saw him in the back before.

25 THE COURT: Yes, I did.

1 MR. BUCHANAN: This is -- he's going to be handling
2 the examination this morning.

3 THE COURT: All right. Good morning, Mr. Brody.
4 Welcome. I know you've been watching the trial, and nice to
5 see you here at counsel table.

6 MR. BRODY: Thank you very much, Your Honor.

7 THE COURT: All right.

8 MR. BRODY: One just quick one, just to preserve our
9 record, I'm expecting that the '431 spreadsheet, which was the
10 subject of a number of motions previously, will be coming up
11 today. I'd just like to renew our motions in limine and court
12 preclusion with respect to that.

13 THE COURT: All right. They're so noted. Your
14 exceptions are noted, and your -- I think your record is very
15 adequately protected, sir. All right. Thank you.

16 MR. BRODY: I'm guessing we didn't change your mind.

17 THE COURT: I'm sorry?

18 MR. BRODY: I said I'm guessing we didn't change
19 your mind this morning.

20 THE COURT: Yeah, that's not -- that didn't happen,
21 no.

22 All right. Joe, let's get the jury in, please.

23 NOTE: At this point, the jury returns to the
24 courtroom; whereupon, the case continues as follows:

25 JURY IN

1 THE COURT: All right. Please be seated. Good
2 morning, ladies and gentlemen. Thank you again for making
3 your way back in on time. I hope you had a good evening, and
4 let me know again that you didn't do any research or
5 investigation or talk to anybody about the case. Is that
6 right?

7 Okay. Thank you very much.

8 All right. Mr. Zebrak, next witness, sir?

9 MR. ZEBRAK: Thank you, Your Honor. We call Barbara
10 Frederiksen-Cross to the stand.

11 THE COURT: All right.

12 BARBARA A. FREDERIKSEN-CROSS, PLAINTIFFS' WITNESS, SWORN

13 DIRECT EXAMINATION

14 BY MR. ZEBRAK:

15 Q. All right. Good morning.

16 A. Good morning.

17 THE COURT: Please proceed, Mr. Zebrak.

18 MR. ZEBRAK: Thank you, Your Honor.

19 BY MR. ZEBRAK:

20 Q. Good morning, Ms. Frederiksen-Cross. Nice to see you
21 again.

22 A. Good morning, counsel.

23 Q. For the record, would you please state your full name for
24 the jury?

25 A. Yes. It's Barbara Frederiksen-Cross. That's

1 F-r-e-d-e-r-i-k-s-e-n-C-r-o-s-s.

2 Q. And where do you currently work?

3 A. JurisLogic.

4 Q. And what is your position at JurisLogic?

5 A. I am the director of forensic investigations.

6 Q. And at a high level, could you explain what JurisLogic
7 is?

8 A. It's a company that specializes in the analysis of
9 computer software and computer-based evidence in forensic
10 context primarily, but we also do work for evaluation of
11 software and technical due diligence, so mergers and
12 acquisitions.

13 Q. Thank you.

14 And could you tell the jury what your connection to
15 this case is?

16 A. I'm an independent, outside expert who was brought in on
17 behalf of plaintiffs to evaluate the source code and the
18 technical evidence that relates to some of the computer
19 systems that have been used in this case. So the MarkMonitor
20 computer system, the Audible Magic computer system, and the
21 Cox CATS computer system.

22 Q. And did you, in fact, perform those reviews?

23 A. Yes, I did.

24 Q. And are you prepared to testify to your analysis today?

25 A. I am.

1 Q. Let's take a step back. Would you please tell the Court
2 something about yourself?

3 A. I live in Portland, Oregon. I've lived there a good
4 portion of my life, but I started out in the Silicon Valley
5 and went to the first years of grade school there.

6 Q. And when did you start being involved with computers and
7 software?

8 A. I was one of those nerdy kids who got involved early. I
9 think I had my first contact with computers when I was 11 or
10 12 years old and then really got interested in seventh grade,
11 when I had a math teacher who -- I was in sort of a STEM --
12 what would be called a STEM program today, and he had arranged
13 for us to have access through a local college to the computer
14 system and to get an introduction to programming, and I loved
15 it.

16 Q. And how old were you when you graduated high school?

17 A. I left high school at 16 and went to a local college and
18 finished my high school diploma there and then went straight
19 into computer programming training.

20 Q. And what age were you when you graduated college?

21 A. Eighteen.

22 Q. And for roughly how many years have you been involved
23 professionally in computers and software-related forensics?

24 A. Forty-five years with computers and software development,
25 and forensics part-time since the mid '80s and full-time since

1 1997.

2 Q. So when you graduated college at age 18, what was your
3 first professional job?

4 A. I had actually had the opportunity to work with the State
5 of Oregon in one of the local counties as a part of a
6 cooperative work study experience while I was in school, and
7 so when I graduated, they offered me a job, and I went to work
8 for the State of Oregon initially.

9 Q. And what were you doing for the State of Oregon?

10 A. Programming computers and developing online systems.

11 Q. And what did you do after that?

12 A. During the time I was with the state, I was fortunate
13 enough to get some specialized training from IBM. So when I
14 was 21, I started a business that specialized in helping
15 people who had very large computer systems get optimum
16 performance out of their computer systems.

17 Q. And so in the business that you said you started, what,
18 what types of clients did you have?

19 A. In those days, it was primarily banks, insurance
20 companies, and telephone companies, because they had the big
21 computers and they had the need for speed in their systems,
22 and that was, that was really what I specialized in, was high
23 performance systems.

24 Q. For roughly how long did you run that business?

25 A. Throughout my career until I switched to forensics

1 full-time. Actually, I'm just winding down that business now
2 because I find that the forensic work is taking up all of my
3 time.

4 Q. Okay. We'll get to that in more detail in a moment.
5 Let's stay on the business that you founded after you left
6 work with the State of Oregon for a minute.

7 You just mentioned some of the clients by type that
8 you worked for. Are there any well known names of these
9 clients that we might be familiar with?

10 A. The ones you might recognize are probably some of the
11 banks and insurance companies principally. That would be
12 First Interstate Bank, U.S. Bank, Blue Cross-Blue Shield,
13 MetLife, Standard Insurance, AT&T Telephone Company. Also did
14 some work during that time for federal and state governments.

15 Q. And what, generally, were you doing for these types of
16 clients?

17 A. Generally, I was either developing operating system
18 modifications or tuning the performance of online systems, or
19 in a few cases of high-performance batch systems like the
20 systems that would process checking account transactions at
21 night, you know, if a customer couldn't get all of their
22 transactions processed in one night, I would come in and help
23 them tune the system so they could get that done.

24 Q. Sure. So to the nontechnical person, you talk about
25 developing and fine-tuning systems. Does that involve

1 software?

2 A. Yeah. It involves writing software or hunting down
3 problems in software, and also looking at the underlying data
4 and helping to, to create organizations for that data that
5 made performance more possible.

6 Q. And now you've used the term "forensics." Could you
7 elaborate on what that means?

8 A. Yeah. As I'm using that term, it means a formal
9 inspection of computers or computer-based data in order to
10 produce a report that can be used to discuss my findings here
11 in court or for an agency who's conducting some investigation.

12 Q. And you mentioned you're -- you currently work at
13 JurisLogic, correct?

14 A. That is correct.

15 Q. And when did you start working with JurisLogic?

16 A. Well, actually I started work with the predecessor
17 company, Johnson-Laird, Incorporated, I think it was about
18 1987 or 1988 and worked with them on and off over the years
19 when they needed the languages that I spoke, you know, the
20 computer languages I spoke or needed some of my specialized
21 skills, and then in 1997, I made the switch full-time and
22 joined the Board of Directors for Johnson-Laird and became
23 their senior managing consult, and we re-branded the company
24 as JurisLogic in 2017.

25 Q. And how does forensics, as you'd use the term, relate to

1 computers and software?

2 A. Well, a lot of the work that I do involves, for instance,
3 inspecting software to understand how it operates, what it
4 does, what kind of data it produces, or in some cases actually
5 looking at the data that's produced by computer systems to
6 examine different bodies of data and say is this data
7 consistent and does it -- is it consistent with the software
8 itself?

9 Q. And at a high level, what types of matters have you
10 worked on while at JurisLogic?

11 A. It runs the gamut. A fair amount of our work is
12 intellectual property, so patent, copyright, trade secret that
13 involve computer software. I've also done computer -- or
14 criminal work, computer investigations in the context of
15 criminal work, which can include fraud, several murder
16 investigations, computer sabotage, and in various types of
17 intrusion in computer systems.

18 Q. Let's, let's take that a step at a time. In terms of the
19 civil side of civil litigation, could you tell the jury, maybe
20 name some of the clients who you've worked for?

21 A. Sure. I've worked on behalf of Microsoft, on behalf of
22 Oracle, the University of Pittsburgh in a patent matter, Levi
23 Strauss in several different matters that were internal
24 investigations and a couple of criminal investigations.

25 Q. Sure. Is that a complete list of the clients for whom

1 you've worked while at JurisLogic?

2 A. No. I've worked on several hundred different cases, but
3 those are the ones that I think maybe would more recognizable
4 by name.

5 Q. And when you say several hundred different cases, are you
6 talking with computer forensics matters?

7 A. That is correct, yes.

8 Q. And now you mentioned criminal matters. Have you worked
9 with law enforcement on those matters?

10 A. Yes. I've worked both as a consultant to the FBI and to
11 the Department of Justice and also to local police departments
12 in several venues.

13 Q. Ms. Frederiksen-Cross, do you belong to any professional
14 organizations?

15 A. The IEEE and ACM.

16 Q. We've been, I think, chuckling as each witness in this
17 case, as we do in Washington, D.C., uses acronyms, and you're
18 holding true to that. Could you tell the Court what ACM is?

19 A. Yeah. It used to stand for Association of Computing
20 Machinery, but it's an educational institution that does
21 research and publication in the field across a broad spectrum
22 of computer-related or software-related areas of interest, I
23 guess I would say.

24 Q. And you mentioned IEEE; is that correct?

25 A. Yes.

1 Q. And what is that?

2 A. That was originally an association of electrical
3 engineers but has also emerged as one of the, you know, the
4 leading organizations in the world that does peer-reviewed
5 research and publication of peer-reviewed research.

6 Q. Ms. Frederiksen-Cross, I'm going to hand up to you a
7 document that's been marked as -- what we refer to as PX 494.
8 Ms. Frederiksen-Cross, do you recognize that document?

9 A. Yes. It's a copy of my résumé.

10 Q. And does that résumé summarize your educational history
11 and work experience and publications?

12 A. It's a high-level summary, yes.

13 MR. ZEBRAK: Your Honor, we'd move the admission of
14 PX 494.

15 THE COURT: Any objection?

16 MR. BRODY: On the understanding we can do the same,
17 no objection.

18 THE COURT: Yeah. It will be received, and the same
19 ruling will apply to all of our experts unless there are
20 specific objections to the content, okay? All right.

21 MR. ZEBRAK: That's fine, Your Honor.

22 THE COURT: All right. Thank you.

23 MR. ZEBRAK: Mr. Duval, could I have the clicker for
24 us to publish this?

25 BY MR. ZEBRAK:

1 Q. Ms. Frederiksen-Cross, have you authored publications in
2 the field in which you practice?

3 A. I have.

4 Q. And are those listed on this document?

5 A. They should all be here, yes.

6 MR. ZEBRAK: Please publish it to the jury. Thank
7 you. Could you scroll down to the list of publications?

8 BY MR. ZEBRAK:

9 Q. And, Ms. Frederiksen-Cross, we're not going to take these
10 one by one, but roughly speaking, how many publications have
11 you, have you authored that are listed here on this résumé of
12 yours?

13 A. Between 75 and 80.

14 Q. And are these geared toward any particular audience?

15 A. They are -- most of the presentations are directed to the
16 legal community to help educate them about issues relating to
17 forensics and the handling of electronic evidence. Some were
18 directed to law enforcement, and some were published in
19 peer-reviewed technical journals.

20 Q. And is there any particular field or fields that these
21 publications generally relate to?

22 A. They mostly relate to computer forensics or software
23 forensics.

24 Q. And, Ms. Frederiksen-Cross, this résumé also lists
25 matters in which you've testified in litigation; is that

1 correct?

2 A. That is correct.

3 Q. And again, we're not going to take this one by one, but
4 in what capacity were you involved in these cases generally?

5 A. As an expert witness providing testimony on technical
6 matters, typically software or computer-based data.

7 Q. And were you admitted to testify as an expert in these
8 cases?

9 A. I've been admitted to testify as an expert in federal and
10 state court on 26 occasions.

11 Q. And I see a reference before the trial testimony to --
12 there's a column labeled -- header labeled "Court Appointed
13 Expert." Could you please explain what that means?

14 A. Yes. I served as the data systems advisor to the
15 Honorable Judge Marvin Garbis in the U.S. District Court for
16 the District of Maryland for a number of years.

17 Q. And in what capacity did you serve?

18 A. I was providing advice to the court and to the special
19 master in a case that involved the provision of special ed
20 services to students in the district and helping the court to
21 understand some of the computer technology at issue and some
22 of the issues related to problems with that system.

23 Q. And again, we're not going to go through each of these
24 trial testimony matters, but did you only testify on behalf of
25 either plaintiffs or defendants in those cases?

1 A. I think it's fairly evenly divided between plaintiffs and
2 defendants.

3 Q. Thank you.

4 Ms. Frederiksen-Cross, are you being paid for your
5 work in this matter in terms of the time you invest?

6 A. I am compensated at an hourly wage, yes. I mean, my
7 company is. I get a flat salary, but --

8 Q. And what is the hourly rate?

9 A. JurisLogic is paid \$595 an hour for my time.

10 Q. And roughly speaking, do you have an understanding as to
11 how much time you've spent working on this matter so far?

12 A. I believe I have about 400 hours working on this matter
13 thus far.

14 Q. And does the payment of the fees that we've just talked
15 about for your hard work in this matter, does that in any way
16 depend on what opinions you provide?

17 A. Not at all.

18 Q. And does the payment of those fees in any way depend upon
19 the outcome of this case?

20 A. Not at all.

21 MR. ZEBRAK: Your Honor, we'd move the admission of
22 Ms. Frederiksen-Cross as an expert.

23 THE COURT: In any particular field?

24 MR. ZEBRAK: Yes.

25 THE COURT: Do you want to narrow it?

1 MR. ZEBRAK: Yes, Your Honor. In the analysis of
2 computer software and computer-generated data.

3 THE COURT: All right. Any objection?

4 MR. BRODY: I have no objection to her opining, Your
5 Honor. I do have an objection as to -- I mean, we can do it,
6 too, but normally I would object to asking the Court to
7 certify her as an expert.

8 THE COURT: I didn't hear the last couple of words.
9 Serving as --

10 MR. BRODY: I have no objection to her opining,
11 giving opinion testimony.

12 THE COURT: All right.

13 MR. BRODY: I -- and we can do this with all the
14 experts if that's the practice, but normally I would object to
15 the Court -- asking the Court to certify the witness as an
16 expert.

17 THE COURT: All right. I understand now. Thank
18 you.

19 I find that Ms. Frederiksen-Cross has the
20 educational and professional qualifications to testify on the
21 subjects that she's been asked to testify on.

22 All right. Go ahead.

23 MR. ZEBRAK: Thank you, Your Honor.

24 BY MR. ZEBRAK:

25 Q. Ms. Frederiksen-Cross, are you familiar with the name

1 MarkMonitor?

2 A. I am, Counsel.

3 Q. And what is your understanding of what MarkMonitor is?

4 A. MarkMonitor is an antipiracy company, amongst other
5 things, and in the context of this case, their role was to
6 attempt to detect illicit trading of files on peer-to-peer
7 networks and to provide e-mailed notification of the events
8 that they detected to Cox.

9 Q. And what is your understanding of why MarkMonitor was
10 engaged in that activity?

11 A. They were engaged on behalf of the RIAA to provide that
12 information so that Cox would be able to take action upon
13 those notices.

14 Q. And we're going to talk about this in much more detail in
15 a while, but these were notices of what?

16 A. They were notices where MarkMonitor had detected Cox
17 subscribers who were using the peer-to-peer network on the
18 internet to copy and distribute files which belonged to the
19 recording companies.

20 Q. And when you say files that belong to the recording
21 companies, what do you mean by that?

22 A. Music files that were being traded using these
23 peer-to-peer networks.

24 Q. And --

25 A. Copyrighted music files specifically.

1 Q. And why was MarkMonitor reporting that to Cox
2 specifically?

3 A. Well, because in the case of those particular detections,
4 Cox had been identified as the internet service provider who
5 was giving those individuals access to the internet.

6 Q. All right. So -- by internet service provider, I presume
7 you -- we're going to by shorthand just call that an ISP; is
8 that all right?

9 A. That would be great.

10 Q. Now I'm violating the rule of -- I'm going from the long
11 phrase to an acronym. Before, I asked you to go the other
12 direction.

13 What is an ISP?

14 A. An internet service provider, or ISP, is a company that
15 provides access to the internet for its customers so that they
16 are able to connect their computers, their home or their
17 business computers to the internet.

18 Q. And do you have an understanding of when MarkMonitor sent
19 the notices relevant to this case to Cox on behalf of the
20 RIAA?

21 A. I think that the time period of greatest interest is 2013
22 and 2014. The evidence I have received was actually notices
23 for a little broader period, from 2012 through 2015.

24 Q. And I believe you made a reference to MarkMonitor
25 monitoring for certain music files on peer-to-peer networks.

1 Was that correct?

2 A. That is correct.

3 Q. Which specific peer-to-peer networks was MarkMonitor
4 trying to detect the sharing of music files on?

5 A. There are four particular networks that MarkMonitor was
6 monitoring. Those are BitTorrent, Ares, eDonkey, and
7 Gnutella, G-n-u-t-e-l-l-a.

8 Q. Thank you.

9 And in the course of your work in this matter, did
10 you have the opportunity to review the MarkMonitor system that
11 was used to detect the sharing of these music files and report
12 that to Cox?

13 A. Yes, I did.

14 Q. And at a high level, what did your review consist of?

15 A. I reviewed the source code for those systems, that is to
16 say, the human readable form of their computer programs. I
17 also had the opportunity to interview MarkMonitor engineers,
18 and I was provided some documents that gave me some background
19 about the systems in anticipation of those reviews.

20 I also reviewed evidence that is produced or
21 collected by those systems, that is to say, the
22 contemporaneous records that those systems generate as they go
23 about their business.

24 Q. And is that a complete recitation of everything you've
25 looked at, or is that just a summary?

1 A. That's just a summary. There was a lot of material. You
2 know, I've also seen deposition transcripts from some of --
3 and declarations from some of the MarkMonitor personnel and
4 other personnel who were involved in software used in these
5 systems.

6 Q. And you mentioned, I believe you said you spoke with
7 MarkMonitor engineering employees. Was that correct?

8 A. Yes, with some of their engineers.

9 Q. Did you speak with anyone else at MarkMonitor?

10 A. There were two specific individuals, Sam Bahun and a
11 gentleman whose last name I'm sure I will mangle with a
12 Russian last name.

13 Q. That's okay. And, I'm sorry, I know you mentioned source
14 code and you gave a bit of a short description of what that
15 is, but could you please give the jury a little more of an
16 understanding of what source code is?

17 A. Sure. When programmers write a program, they do so in a
18 computer language that's designed specifically to facilitate
19 giving that instruction to the computer, and it's an
20 artificial language, but it has a syntax and verbs and nouns
21 you create and data structures, and you write out the
22 instructions that the computer is to perform. Those then get
23 translated into the form that the computer actually uses.

24 Q. And are you familiar with the name Audible Magic?

25 A. I am.

1 Q. And what is Audible Magic?

2 A. Audible Magic is one of the leading content
3 identification services. I believe they are the leader in the
4 Western world at least. And the services they provide,
5 amongst other things, are the identification of sound
6 recordings and movies and other types of electronic content,
7 but as they relate to this case, it's sound recordings.

8 Q. And what do you mean by an "identification of sound
9 recordings"?

10 A. Well, you can submit a recording that maybe you don't
11 know what the title and artist is to them or even a snippet of
12 a recording, and they are able using a proprietary and
13 patented technology to figure out what artist and title that
14 is and whether it's a copy of a, of a particular song.

15 Q. And could you please explain at a high level your
16 understanding of Audible Magic's relationship to this case?

17 A. Yes. Audible Magic is a company that is used by
18 MarkMonitor to provide song identification services. So when
19 MarkMonitor collects a song from one of these peer-to-peer
20 networks, in order to verify that that song is what they think
21 it might be, they submit it to Audible Magic to get an
22 identification.

23 Q. And did you do any investigation in the course of your
24 work in this case with respect to the Audible Magic system?

25 A. I did.

1 Q. And did you come to any conclusions about the Audible
2 Magic system? Just a yes or no question.

3 A. Yes, yes.

4 Q. And are you prepared to discuss those today?

5 A. I am.

6 Q. Thank you.

7 And did you come to conclusions with respect to the
8 overall MarkMonitor system?

9 A. Yes, I did.

10 Q. And are you prepared to discuss those today?

11 A. Yes, I am.

12 Q. At a high level, what was your conclusions about the
13 MarkMonitor system, including the Audible Magic system used as
14 part of it?

15 A. Based on the evidence I've reviewed and examined, it's my
16 opinion that that system both accurately detects acts of
17 copying and distribution on the internet on these peer-to-peer
18 systems, and it also provides and produces accurate notices
19 that can be sent to an ISP like Cox to notify them of that
20 activity.

21 Q. Thank you.

22 Ms. Frederiksen-Cross, were you in the courtroom on
23 Monday for the parties' opening statements?

24 A. I was, Counsel.

25 Q. And did you hear Cox's counsel argue that, in very stark

1 terms, that there's no evidence of infringement in this case?

2 A. I heard that argument.

3 Q. And what do you think about that?

4 A. I completely disagree. I think that the amount of
5 evidence in this case is overwhelming that there were Cox
6 subscribers who were copying and distributing the plaintiffs'
7 music files on the internet.

8 Q. And we're going to discuss the basis for your opinion in
9 much more detail today, but at a high level, would you please
10 explain why you believe what you just said?

11 A. It is based first on a foundation of my understanding of
12 these peer-to-peer technologies, how they operate and the way
13 in which they allow the distribution and copying of content,
14 and then upon the specific evidence that I reviewed with
15 respect to the activity of Cox subscribers, and finally on my
16 inspection of the source code as well to understand exactly
17 how that worked and how it was able to do this detection and
18 how the notices were provided.

19 Q. And finally, I believe you said you did some work with
20 respect to reviewing the Cox CATS system; is that correct?

21 A. That is correct, Counsel.

22 Q. And, generally speaking, what is the CATS system?

23 A. CATS stands for the Cox Abuse Tracking System, and it's a
24 system that's designed to receive e-mails that are abuse
25 complaints and then to take the actions that Cox has

1 programmed for that system to take based on those
2 notifications it receives.

3 Q. And did you have an opportunity to review the CATS system
4 during your work in this case?

5 A. Yes, I have.

6 Q. And at a -- are you prepared to discuss that review
7 today?

8 A. I am.

9 Q. And at a high level, what is your conclusions with
10 respect to the CATS system?

11 MR. BRODY: Your Honor, may I approach, please?

12 THE COURT: Yes, sir.

13 NOTE: A sidebar discussion is had between the Court
14 and counsel out of the hearing of the jury as follows:

15 AT SIDEBAR

16 MR. BRODY: I have no objection to him asking her to
17 describe the operation of the system, but she specifically
18 disclaimed having any opinions -- of the CATS system that
19 is -- but she specifically disclaimed having any opinions
20 about the effectiveness of the system, and if we're not going
21 to go there, then that's not a problem.

22 MR. ZEBRAK: I mean, that's a very high-level
23 question. You're well acquainted with her testimony. Do you
24 have a reason to think that she's testifying about the
25 effectiveness of these systems?

1 THE COURT: He's asking you what you can ask here in
2 trial.

3 MR. ZEBRAK: Yes, sir.

4 THE COURT: And if it's in the report and it's part
5 of the discovery, then it's fair game.

6 MR. ZEBRAK: Yes, Your Honor.

7 THE COURT: If it's something that wasn't covered,
8 it's not.

9 MR. ZEBRAK: Yes, Your Honor. And I perfectly
10 acknowledge and respect the fact that she's not testifying
11 outside her report. We have no intention nor do I have any
12 reason to believe she's going to testify about the
13 effectiveness of the CATS system. I merely asked that
14 question because this appears to come out of the blue, and I'm
15 just surprised by it. That's why.

16 MR. BRODY: It's paragraph 8A of her reply report,
17 but if he's not going to ask about it, that's fine.

18 MR. ZEBRAK: No, I don't.

19 THE COURT: All right, thank you.

20 MR. BRODY: Thank you.

21 THE COURT: Thank you.

22 NOTE: The sidebar discussion is concluded;
23 whereupon, the case continues before the jury as follows:

24 BEFORE THE JURY

25 THE COURT: All right. Please continue.

1 MR. ZEBRAK: Thank you, Your Honor.

2 BY MR. ZEBRAK:

3 Q. Ms. Frederiksen-Cross, let's dig in in a little more
4 detail to some of the technological background in this case.

5 And, Your Honor -- excuse me, strike that.

6 Ms. Frederiksen-Cross, could you explain what
7 happens when someone sits down at their computer and types in
8 a website, a URL?

9 A. Yes, I can, and I've actually provided -- or produced
10 with the assistance of the trial graphics folks a few slides
11 that might help the jury follow that, if I can be allowed to
12 use them.

13 Q. Sure. And you mentioned slides. Do those slides relate
14 just to the question I asked or do they speak to your overall
15 conclusions in this case?

16 A. More broadly to my overall conclusions, but I have slides
17 for that specific question.

18 Q. And are those slides an accurate and fair representation
19 of what you're prepared to testify on today?

20 A. Yes.

21 MR. ZEBRAK: Your Honor, permission to publish the
22 slides as demonstratives?

23 THE COURT: Any objection?

24 MR. BRODY: No, Your Honor.

25 THE COURT: All right.

1 MR. ZEBRAK: Thank you. Mr. Duval, if you could
2 bring it up?

3 BY MR. ZEBRAK:

4 Q. So turning to the first slide, it says -- would you walk
5 the jury through? It says: Basics of internet communication
6 requests. Can you explain to the jury what the purpose of
7 this slide is?

8 A. Yeah. What I'd like to do with this slide is to just
9 introduce a little terminology and just to show you some of
10 the basic interactions that a computer has when it
11 communicates with another computer across the internet.

12 Q. Okay. And let's kind of take this a step at a time and
13 explore this slide. So there's a computer on the left side
14 that says -- or there's actually three users, Users 1, 2, and
15 3, within a box that says, "Cox." What is that depicting?

16 A. Okay. This is in miniature a selection of Cox customers
17 who might be using Cox's service to access the internet. This
18 could be any really ISP, but because Cox is in this case, I've
19 chosen them.

20 Q. Okay. And beneath User 1, I see a reference to an IP
21 address. Could you explain what that is?

22 A. Yeah. Just like your home has a street address that
23 allows mail or parcels to be delivered to you, computers also
24 have an address that allows communication that's going to or
25 from that computer to be identified as the sender or

1 recipient.

2 Q. And beneath it -- oh, and it says, "IP address," and it
3 has a long string of numbers. What do those numbers
4 represent?

5 A. Those numbers represent a specific communication point on
6 the internet. So when a message comes from that, from a
7 computer with that number, or goes back to a computer with
8 that number, that's how the message gets routed to the right
9 location, the right destination.

10 Q. Thank you. And would Users 2 and 3 have -- what, what
11 would that reflect with respect to their IP addresses? Would
12 it be the same as what we see for User 1 or something
13 different?

14 A. Unless they were, like, within the same network, for
15 instance, within the same home or the same business, they
16 would typically have their own.

17 Q. But let's say if they were three separate homes. They
18 would each have their own IP addresses?

19 A. That's correct, yes.

20 Q. But they'd all be IP addresses where Cox is providing
21 individuals from that home with access to the internet; is
22 that correct?

23 A. Right. In this example, each of those homes would be
24 getting their service through Cox.

25 Q. And what -- beneath the IP address, I see something, the

1 words "port number." Could you explain what that signifies?

2 A. Yeah. If we go back to our example of a letter that is
3 being exchanged between two people, the street address says
4 where to deliver it, or the IP address in this instance. The
5 port number says who to deliver it to.

6 So, for instance, a particular program like a web
7 browser would have one port number where a different program,
8 like, maybe a streaming TV service, would have a different
9 number, and so when information comes in from the internet to
10 that IP address, the port number can be used to associate that
11 information with the program that's going to handle it.

12 Q. And on the right side of this slide, there's the
13 word "server." Could you explain what that's depicting?

14 A. Yeah. I'm going to use a really simple example here of
15 one computer getting information, like a file or web page,
16 from another computer on the internet. So a server is a
17 computer that provides content to others, and it might be an
18 e-mail server, it might be a video server. You know, there's
19 all different kinds of content that could be provided. But
20 it's typically a computer that is sending -- or responding to
21 a request for information and sending that information back.

22 Q. At a -- maybe a more generalized level, would that
23 include, let's say, a user visiting a website?

24 A. Sure. A web server would be an example of that.

25 Q. So, for instance, if User 1 visited cnn.com, is that what

1 would be depicted here?

2 A. In a simplified version, yes.

3 Q. And there's a reference to an IP address above server,
4 but it looks like it's a different IP address number than we
5 see in the -- as compared to User 1. Why, why are they
6 different?

7 A. Well, again, just as two houses won't have the same
8 street address, two computers on the internet or two entry
9 points to a computer system won't have the same IP address.

10 Q. And then what happens when the user makes a request to
11 the server?

12 A. If we could advance the slide, User 1 would send a
13 request through the internet, and it would be routed to that
14 other -- that second address to the server address. So it
15 would be a request for information of some sort, then packaged
16 with the IP address and the routing information required to
17 get it there.

18 Q. And then what happens once that request reaches the
19 server?

20 A. The server would process the request, look up the
21 requested file or page, and then part of that package of
22 information that goes just like an envelope has the sender and
23 the recipient, that package is encapsulated with that same
24 kind of information but for the IP address, and so the server
25 can take the recipient's address and say, ah, I know who to

1 send this -- or, I'm sorry, the sender's address, and say, ah,
2 I know who the recipient of my message is, and encapsulate its
3 own message and send it back so that that message, in this
4 case the web page, gets sent back to the appropriate computer
5 that had requested it.

6 Q. And do you have a slide that depicts what happens during
7 the response?

8 A. I do, yeah. If we could -- if we could advance to the
9 next slide?

10 Q. All right. So -- well, first of all, what is file types?
11 Why do you have that on this slide?

12 A. Oh, just to underscore the point that a server might be
13 serving almost any kind of file. It could be a data file, it
14 could be a document, it could be a web page, it could be a
15 music file, it could be a YouTube video or a movie. You know,
16 there's all sorts of different content that are exchanged in
17 essentially the same way.

18 Q. But is it your testimony that the users receive back the
19 response because their request includes their IP address? Is
20 that essentially how it works?

21 A. Yeah. The request would include not only their IP
22 address, of course, but what specific information they're
23 requesting.

24 Q. And could you explain what a peer-to-peer protocol is?

25 A. Yes. A peer-to-peer is a different kind of file

1 distribution system that's also used on the network. And I
2 have a few slides about peer-to-peer that might help
3 illustrate that as well.

4 Q. And what's being illustrated in this slide?

5 A. One of the principal differences between client server
6 and peer-to-peer is that in a peer-to-peer network, any
7 computer that's in that network can be sending or receiving
8 information from any other computer. So it -- the boundaries
9 of who's the sender and who's the receiver are, are less
10 clearly defined because each computer is both a sender and a
11 receiver. That's why they're called peers. They're equal
12 within the network.

13 Q. And you've used the phrase "peer-to-peer protocol" and, I
14 believe, "peer-to-peer network." Is there a difference
15 between the two?

16 A. The protocol is what enables the exchange -- and that's
17 the proper technical term really -- but these are often
18 referred to as peer-to-peer networks because it's a group of
19 computers who are intercommunicating, and so in that sense, it
20 is a network. They're networking.

21 Q. So the network are the groups of computers or peers
22 communicating with each other on that protocol; is that
23 correct?

24 A. That's correct.

25 Q. Are you familiar with the term "file share"?

1 A. Yes, I am.

2 Q. And what does that refer to?

3 A. A file sharing network is a network that uses a protocol
4 in order to facilitate the -- typically the copying and
5 distribution of files. Sometimes it's used for files that
6 just -- or for networks that just distribute. But in this
7 context that we're going to talk about here, it's a network
8 that's used to both copy and distribute.

9 Q. Now, you mentioned that -- you mentioned BitTorrent,
10 Ares, Gnutella, and eDonkey. Are those file sharing networks?

11 A. They're file sharing protocols whose users together form
12 the networks.

13 Q. And, you know, when I think of the term "sharing," I
14 think of maybe loaning someone a book that I just bought from
15 the bookstore. Is that -- is that how it works in file
16 sharing?

17 A. No. With electronic file sharing, a copy is distributed
18 such that -- like, if I have a file and I, I share a copy with
19 you, I'm actually creating a copy of that work and providing
20 you with that copy I've created. So I still have my copy, and
21 now you have a copy, too.

22 Q. Now, you mentioned that MarkMonitor monitored four
23 peer-to-peer file sharing networks for the RIAA; is that
24 correct?

25 A. That is correct, yes.

1 Q. With respect to the notices that MarkMonitor sent to Cox,
2 was -- did they relate to each of those four networks equally,
3 or was -- did the notices involve one network at a higher
4 level?

5 A. The primary network was BitTorrent. That is to say, it
6 had the largest volume of notices, in the order of 60 to 65
7 percent of the notices were BitTorrent, and then followed by
8 Ares, which had roughly 30 percent of the notices, and then
9 the others were much smaller.

10 Q. Okay. Are you prepared today to talk about these four
11 networks, though?

12 A. I am, yes.

13 Q. All right. I'm going to advance the slide, if that's all
14 right.

15 A. Yes, please.

16 Q. Okay. So just to be clear, these are different file
17 sharing systems; is that correct?

18 A. Yes. They each have their own peculiarities and
19 protocols, but they operate in essentially the same fashion
20 and for the same purpose.

21 Q. What do you mean by that?

22 A. Well, the purpose of each of these protocols is the
23 efficient and robust distribution of copies of files. I mean,
24 that's what they were designed to do, is to allow people to
25 copy and distribute content using their specific protocol.

1 Q. And is there a common technique upon which these
2 peer-to-peer file sharing systems each rely?

3 A. Well, they have several common characteristics.
4 Obviously, they're all designed to operate on the internet, so
5 they all rely on internet connections to be able to carry out
6 the distribution. They also all rely very heavily on a
7 technique called hashing for file identification and for
8 authentication of content.

9 Q. Could you elaborate on what hashing is?

10 A. Yeah. I think if we go to the next slide, I'd like to
11 introduce an icon here that I'll be using throughout too.
12 This little fingerprint icon is going to be used when I talk
13 about hashing, just to help to remind you about that, but
14 hashing is a technique -- or a hash is a technique that was
15 developed by the U.S. government. It's based on a specific
16 calculation of the file's contents, and it uniquely identifies
17 what a file's contents are.

18 So if you have a hash that you have gotten from one
19 file and you see that hash again, you know that the file --
20 the second file with that same hash has got the same contents.

21 Q. And if you could turn your attention back to the image on
22 this, on this slide, it looks like there's a fingerprint with
23 a little icon in the lower right. What is that depicting?

24 A. This is the hash that represents a particular file. So I
25 have combined the fingerprint, because sometimes these are

1 called digital fingerprints, with the file icon to distinguish
2 this. Because we'll be talking about another kind of hash
3 algorithm later on in this matter, or another kind of
4 fingerprint actually. It's not a hash, per se.

5 Q. But this symbol here with the little file icon, you're
6 referring to that as a file hash?

7 A. Yes, that's correct.

8 Q. Okay. And you mentioned that this hash technology was
9 created by the U.S. government. Is that correct?

10 A. Yes. It was developed originally by the NSA for secure
11 communications.

12 Q. Could you expand upon that a little bit?

13 A. Well, if I send an important message to you, you're going
14 to want to have a way of making sure that that message hasn't
15 been tampered with in any way, or that during transmission,
16 you know, no part of the message has been lost, and so one way
17 that, that I can ensure that or can help you ensure that is to
18 also send the hash of the file, and that way, when you receive
19 the file, you run the same computation that I originally ran
20 to generate the hash, as you've got the same program, and by
21 comparing the two hashes, you know that the content is exactly
22 the same as what I sent if the hashes match.

23 And if there's any difference, even the tiniest
24 difference, the hashes won't match, and you know something is
25 wrong, and you can say: Hey, send me that file again.

1 Something happened.

2 Q. When you talk about a tiniest difference, let's say it's
3 a long ten-page letter. If one word changes or someone, you
4 know, goes into the file, deletes one word, will the file
5 still have the same hash when it's saved?

6 A. No, not at all. If any character changes, even if an
7 extra space is added, that file is going to have a different
8 hash.

9 Q. But if you know -- so then if you know the contents of a
10 file and you know its hash, every time you look at a file's
11 hash, you know its contents; is that what you're saying?

12 MR. BRODY: Your Honor, objection.

13 THE COURT: It's leading, yeah. Sustained.

14 MR. ZEBRAK: That's fine. We can --

15 THE COURT: Reask the question if you'd like.

16 MR. ZEBRAK: Yeah. I think it's -- quite frankly,
17 we've covered it. I'll just move on.

18 THE COURT: Okay. Thank you, sir.

19 BY MR. ZEBRAK:

20 Q. Could you explain the context in which hashes are used?

21 A. They're actually used all the time in, in everyday
22 applications. Banking transactions, financial transactions,
23 wire transfers of money, those things are all -- use one form
24 or another of hashing to help ensure that the message is
25 transmitted accurately.

1 It's also used to secure and authenticate documents,
2 so for instance, if I was sending my will to my attorney, I
3 would also send a hash with it and ask him to verify the hash
4 just to make sure that there was -- you know, nothing had gone
5 amiss or scrambled in that document.

6 And it can also be used, obviously, in much more
7 serious contexts. If a general was sending some information
8 about where to muster troops, they might want to not only
9 encrypt that information for secure transmission but also send
10 a hash to make sure that there was no inadvertent or
11 deliberate tampering of that message in its, in its course of
12 delivery.

13 Q. What relationship, if any, do hashes have to this case?

14 A. All, all four of the peer-to-peer clients that we're
15 going to talk about rely on hashes to identify content and to
16 verify that content has been transmitted without corruption,
17 and the MarkMonitor system also relies on hashes to identify
18 content.

19 Q. Sure. And we're going to talk much more about the
20 MarkMonitor system, but what do you mean by the MarkMonitor
21 system relying on hash values?

22 A. Well, for instance, to identify a particular unique sound
23 recording, the MarkMonitor system retains the hash value
24 associated with that particular file so that it can identify
25 that file whenever it encounters it again, and there are also

1 some of the files that are used as part of the mechanics of
2 the BitTorrent system that have their own hashes, and
3 MarkMonitor also retains a record of those hashes. And we'll
4 get into that, I think, in a little more detail once I've
5 introduced the right terminology.

6 Q. Are there different types of hash values?

7 A. There are different types, that is to say, they're
8 created using different mathematic algorithms, but they also
9 operate in essentially the same, same way. They apply a
10 computation against the contents of a file and get back this
11 value that represents the contents, that is to say, it's
12 associated with the contents of the file.

13 Q. And is it fair to describe hashes as a file
14 identification technique?

15 A. It's very widely used for that. We use it extensively in
16 forensics as well to identify duplicate files, or if we're
17 tracing the transmission of a file to point-to-point and want
18 to see if it showed up on multiple computers, we use hash
19 techniques to do that.

20 Q. Does a file's hash value change over time?

21 A. Not unless its contents does. So if I were to create a
22 file -- a hash today for a file, that same file -- that would
23 be the same hash I would get tomorrow or five years from now
24 for that same file unless something had changed in the file.

25 Q. So what happens if I upload a file to the internet and it

1 gets passed around and just copied, copied and copied and
2 copied? Without any changes to the file, the same file itself
3 is just copied. Will those have different hash values?

4 A. No. Each of the copies will have the same hash file
5 unless there was something in the copying process that changed
6 the file. So if part of the file was chopped off, for
7 instance, you would get a different hash, but if it's a
8 perfect copy of the file and it goes out, each copy will have
9 an identical hash and can be recognized through that hash when
10 you, when you look at the hash value for the file.

11 Q. So let's talk a little bit more about BitTorrent. Could
12 you generally explain to the jury what BitTorrent is?

13 A. Sure. BitTorrent is one of these peer-to-peer protocols
14 that is used to copy and distribute files.

15 Q. And do you have an understanding of the popularity of
16 BitTorrent versus other peer-to-peer networks?

17 A. It's probably at this point in time still the most
18 popular of the file distribution networks. At any point in
19 time, there will be between 15 and 30 million users on
20 exchanging files using that technology.

21 Q. And could you walk the jury sort of at a high level how
22 BitTorrent works?

23 A. Sure. If we can advance the slide, what I'd like to do
24 is sort of show you the steps that a user would go through to
25 be able to use BitTorrent.

1 Q. Sure. So -- okay. So could you walk us through what
2 step 1 is here?

3 A. Yeah. The first thing a user has to do to be able to use
4 BitTorrent is they have to download and install on their
5 computer the BitTorrent software. So just like you have to
6 have Microsoft Word to use Word or an e-mail client to use
7 e-mail, you have to have the BitTorrent software on your
8 computer in order to be able to use BitTorrent.

9 Q. Okay. And there's a set of dots going from the user
10 through the internet to something depicted at the top of the
11 slide. Could you explain to the jury what that is showing?

12 A. Yeah. uTorrent is one of the more popular BitTorrent
13 clients, so I've borrowed their logo for the top of the slide
14 there, and this just shows that a user would go out to the
15 internet, they could just Google "torrent client" or "uTorrent
16 client." It would take them to a site, they click on it,
17 download it, it comes down to their computer, and then they
18 click on it again to install it.

19 Q. And generally speaking, does it cost anything to download
20 a copy of that software and put it onto your computer?

21 A. No, it's free.

22 Q. Okay. And what's, what's the -- I see a pirate ship on
23 the right. What is that depicting?

24 A. That's the logo of Pirate Bay, which is one of the sites
25 that someone can go to to get what's called a torrent file.

1 The next step in the process is to get a torrent file for the
2 particular music you want.

3 Q. And do you have an understanding about the popularity of
4 the Pirate Bay as a place for torrent files?

5 A. It's one of the most popular places to go. There's quite
6 a number of these sites, but it's probably the largest and
7 best indexed.

8 Q. And just very briefly because we're going to explore this
9 in more detail in a moment, but could you, since we're talking
10 about it now, explain what a torrent file is at a very high
11 level?

12 A. Sure. It's a file that's used by BitTorrent to help you
13 locate the music you want. It doesn't actually contain the
14 music, but it helps you get to the music.

15 Q. Okay. And finally, there's a bunch of computers labeled
16 "peers" down there. Why are they on this slide?

17 A. Well, they're the peers who have the copies of files that
18 you're looking for. So if I were to go out to the internet
19 and say I want ZZ Top "Legs" and I say give me a torrent for
20 ZZ Top "Legs" and open that torrent on my computer, what would
21 happen is right away I would be automatically provided with
22 the information that -- the software would be provided with
23 the information and would be able to begin collecting the
24 pieces of that file from those peers.

25 Q. And just for clarification, because we all have our own

1 different tastes in music, but would you explain when you said
2 ZZ "Legs," what were you referring --

3 A. ZZ Top "Legs."

4 Q. Okay. And that's a band and a song by them?

5 A. Yeah.

6 Q. Okay. Thank you.

7 And -- okay. And then what's being depicted here in
8 the third slide -- in the third step in a little more detail,
9 please?

10 A. Well, as soon as you open that torrent file in your
11 client software, it automatically goes and gets this
12 information, goes out and begins establishing the connection
13 with those peers that will allow you to copy that content to
14 your machine and actually to distribute it to others as well.

15 Q. Now, there's three steps listed here. Does this mean if
16 I don't -- every time if I'm someone that wants to go get my
17 music from one of these peer-to-peer sites, that I have to do
18 each of these steps every time?

19 A. No. You just install the software once, and you could go
20 out to a site and download a whole bunch of torrents at once
21 if you want to, or you could download a torrent whenever you
22 want to go get some new music.

23 Q. And generally speaking, I know you said it doesn't cost
24 anything to download the software. Does it generally speaking
25 cost anything to download torrent files?

1 A. No. That's free.

2 MR. BRODY: Objection, Your Honor.

3 THE COURT: Overruled.

4 BY MR. ZEBRAK:

5 Q. I'm sorry. So -- and does it cost anything to download
6 and distribute files with peers?

7 A. No. That's free, too.

8 Q. And what's happening in that process at a very high
9 level?

10 A. The peers are creating copies and distributing copies of
11 the particular song that's represented or songs. It could be
12 a whole album or even a collection of albums that that torrent
13 file represents.

14 Q. Okay. And I know there's three steps, and I know you
15 said that you don't have to download the software each time,
16 but once you have the software on your, on your computer, is
17 it a complicated process to download the torrent files?

18 A. No, not at all. It's -- you go to Google and run a
19 search, or you go to one of these sites like Pirate Bay and
20 run a search, and then you download the torrent. It's a
21 couple of clicks.

22 Q. And -- okay. Thank you.

23 Now, you mentioned and provided a little bit of an
24 overview of these torrent files. Are you prepared to explain
25 those in a little bit more detail?

1 A. Sure.

2 Q. I believe you have a -- there we go.

3 A. Thank you.

4 Q. And so what -- could you explain what this slide is
5 depicting?

6 A. Yeah. One of the really important things to understand
7 about a torrent file is it does not contain the music or the
8 software or the movie, whatever it is you're downloading.
9 Rather, it's just information that helps you locate it. And
10 that's part of what makes it so hard to take any effective
11 action against a torrent-providing site, because there's
12 really nothing illegal they have in their file.

13 Q. Well, let's explore that in a little more detail. So --

14 MR. BRODY: Your Honor, may I approach?

15 THE COURT: Yes, sir.

16 MR. BRODY: I have an objection.

17 NOTE: A sidebar discussion is had between the Court
18 and counsel out of the hearing of the jury as follows:

19 AT SIDEBAR

20 THE COURT: Yes, sir.

21 MR. BRODY: I object to him asking her for an
22 opinion about legal strategy and how to pursue these people.

23 MR. OPPENHEIM: I didn't hear it.

24 THE COURT: The comment on BitTorrent, that it's
25 hard to detect. There's nothing on BitTorrent that is being

1 stored, so -- is that what you're talking about?

2 MR. BRODY: Maybe I misheard the question. I
3 thought the question was: Is that a reason why it's hard to
4 pursue these people?

5 MR. ZEBRAK: No, sir, that's not what I asked.

6 THE COURT: He didn't ask it. She offered it on her
7 own there. It was a little bit off the target of the
8 question, but she sua sponte, as they say, did that.

9 All right. Let's move along. The jury, we've got a
10 good jury. They understand things.

11 MR. ZEBRAK: You think they understand that?

12 THE COURT: You know, and you keep saying "at a high
13 level," and we're going to get to the real specifics, but
14 you're actually getting to the specifics.

15 MR. ZEBRAK: Okay. Yes, sir. And I don't mean to
16 make it sound like there's a large thing to follow. I think
17 we're moving along at a fast clip, sir.

18 THE COURT: Okay. Thank you. So, I mean, are you
19 moving to strike it? I don't think it was --

20 MR. BRODY: I don't think it needs to be -- if I
21 misheard, I misheard. I thought he was asking her to draw --
22 to opine about why it would be difficult to sue people.

23 THE COURT: Yeah. No.

24 MR. BRODY: Okay. Then if we're not going there,
25 we're not going there.

1 THE COURT: Good. Thank you, sir.

2 MR. BRODY: Thank you.

3 NOTE: The sidebar discussion is concluded;
4 whereupon, the case continues before the jury as follows:

5 BEFORE THE JURY

6 BY MR. ZEBRAK:

7 Q. Thank you.

8 So you're explaining what a torrent file is, and I
9 believe you said it's not the content but it's -- and then you
10 were in the middle of explaining.

11 A. Right. It contains a couple of key pieces of information
12 that help the software that's running on your computer locate
13 the music files you're looking for. So one of them is the
14 location of a computer called a tracker, and the other is
15 information about the music files you're seeking. So that
16 includes the hash of the music file -- or the hash of this
17 particular collection of music files, it's not the hash for an
18 individual file, and other information that's used so that
19 when you collect that file, it can be verified to be an
20 accurate copy.

21 Q. Does the person who's downloaded the software on their
22 computer need to understand how these torrent files work?

23 A. Not at all. All they need to know how to do is to
24 download a torrent file and to open it in their client.

25 Q. And then just at a very high level, what's the function

1 of a tracker?

2 A. A tracker provides to the computer that's seeking music
3 or seeking this file a list of those other peers who are
4 sharing that particular file at that particular point in time.
5 It's not all the peers that are sharing it, but you get a nice
6 set of them.

7 Q. Sure. And then so what happens next in the process?

8 A. If we can go to the next slide.

9 So on my computer, I've downloaded a torrent file,
10 and I've drug it into my torrent window or opened it from the
11 torrent software, and what will happen at that point without
12 any other activity on my part if I'm using the normal settings
13 is my computer will reach out to the tracker and get a list of
14 peers that I show over here on the left-hand side of the --
15 or, I'm sorry, on the right-hand side of the screen, and it
16 will begin requesting the music I want from those peers so
17 that it can assemble that file, and it can get a piece from
18 each peer or it can download the file in multiple pieces from
19 multiple peers at the same time, which makes the process
20 really fast, and it also makes it really robust because if one
21 of those peers goes away, well, there's somebody else I can
22 ask for the piece. So it's a really efficient way to transfer
23 and copy data.

24 Q. Sure. You've used the phrase "piece." What do you mean
25 by that?

1 A. Well, the sound file or files that I'm looking for will
2 be broken up into pieces, and one of the pieces of information
3 that the torrent has is what the size of that piece is.

4 Q. And --

5 A. And each of these peers that's using the same torrent to
6 exchange that same file will have the same size pieces, and it
7 will have whatever part of that song they currently have in
8 those pieces, and the torrent file helps you put them back
9 together.

10 Q. Okay. And so what's being depicted on the left side of
11 this slide?

12 A. That's the computer that's just about to open a torrent.

13 Q. Okay. And in this example, the box around it, does that
14 illustrate how they're connected to the internet?

15 A. Right. In this case, Cox is providing that connection to
16 the internet.

17 Q. Okay. And what -- what's depicted in the -- so there's
18 different percentages on the computers on the right side of
19 the screen. What is that?

20 A. Well, at any point in time, as soon as you have a piece
21 that's been verified, your computer can be distributing that
22 piece to others. It doesn't wait with BitTorrent until it has
23 the entire file.

24 So in this group of peers, some may have 100
25 percent, some may be just like you starting out with

1 0 percent, and others might have some other number of pieces.

2 Q. Okay. So in this example, does the empty -- the user
3 connected through Cox, is the idea that that user doesn't have
4 anything at that point?

5 A. That's right.

6 Q. Okay. Okay. And then so what happens when the user has
7 the software on their computer and opens up a torrent file?

8 A. The computer -- the user's computer will go out and do
9 what's called a handshake with each of these peers on this
10 forum so that, you know, do you have this file?

11 Yeah, I have this file.

12 And then they will begin exchanging pieces of the
13 file.

14 So if you could click here and watch the -- watch
15 what happens in the box on the computer. You see that as it
16 collects those pieces, it very quickly is able to collect and
17 assemble all of the pieces, and at the same time, the peers on
18 the other side are also exchanging pieces with each other so
19 that they can all build complete copies of that file as well.

20 Q. And then what happens?

21 A. Well, once the, the, all of the pieces are collected, the
22 torrent file allows them to be reassembled in the proper
23 sequence so that the music can be played by the user.

24 Q. And does the user have to do anything to put those pieces
25 together?

1 A. No, no. That all happens automatically, just like the
2 distribution. You know, as soon as a user computer gets a
3 piece, it can be sharing that piece with others, and as soon
4 as it gets all the pieces, a little icon pops up that that
5 song is fully assembled, and you can play it now.

6 Q. And I see a reference on the slide to a peer swarm. What
7 does that refer to?

8 A. Well, this -- there's only so much room on a slide. You
9 know, I showed four peers here. A typical swarm is larger
10 than that, and the actual number of computers that might be
11 trading in a particular piece of music at a particular time
12 can be in the tens of thousands.

13 Q. I see. And you -- this slide depicts -- now it depicts
14 more computers.

15 A. A few more joined the swarm.

16 Q. And do you have an understanding about the number of
17 users that are on the BitTorrent network?

18 A. The most recent reputable study I found was by IEEE, and
19 it's a few years old. It indicates that at any one point in
20 time, there'll be between maybe 15 and 27 million peers
21 exchanging content on the internet, and it's -- that's at any
22 one point in time.

23 Q. Is there an official place one can go to see exact
24 measurements of how many users there are on the BitTorrent
25 network?

1 A. No, there is not.

2 Q. And why is that?

3 A. Well, the communication for any of these computers -- any
4 of the peers is between the peers, and some of these
5 peer-to-peer systems use a tracker, so if you were to put a
6 test tracker up with the right monitoring stuff, you could see
7 the transactions maybe that were going to that tracker, but
8 you still couldn't see everything else that was going on in
9 the network.

10 Q. So, so there's nowhere you can go to see the number of
11 users on the network overall; is that correct?

12 A. That's correct. By design, these systems are extremely
13 robust and these machines talk directly to each other without
14 central control.

15 Q. What about if I went to the Cox user that downloaded and
16 is then distributing files to others? Could I uncover the
17 number of times that Cox user distributed files from a review?

18 A. Not in any practical way, no.

19 Q. What do you mean by that?

20 A. Well, if you just went to a user's computer and inspected
21 it forensically, you might have some evidence of their
22 activity, but you would not have evidence of all of their
23 activity.

24 Q. Let me ask you --

25 A. And you would, you would have to actually do a forensic

1 examination of that machine to get any information.

2 Q. Let me ask it to you this way: Are logs kept with --
3 from the software otherwise of the number of times that user
4 distributes a file?

5 A. No.

6 Q. Okay. Can you explain a little bit about the other three
7 peer-to-peer networks that were identified in MarkMonitor's
8 infringement notices to Cox?

9 A. Sure. Can we go on to the next slide?

10 Q. Okay. And so these are the other three? Is that the
11 Ares logo?

12 A. Yes, Ares, Gnutella, and eDonkey.

13 Q. Okay. And I see again the, the file hash value image
14 we're using. Why is that there?

15 A. Again, all of these systems rely on hash to authenticate
16 and identify files. That's a really important technology.
17 That's one of the foundation technologies of these systems.

18 Q. And there's a bunch of icons under file types. What is
19 that meant to convey?

20 A. Again, these networks can be used to distribute any kind
21 of file. Anything that's in an electronic form can be
22 transmitted on BitTorrent, so electronic books, movies, music,
23 if I want to send a video of my dog chasing her tail, any of
24 that can be distributed on the -- using BitTorrent across the
25 internet to others.

1 Q. Sure. And why is there the internet cloud on this, this
2 slide?

3 A. They all rely on the internet for connection to each
4 other, for the peers to be able to connect to each other and
5 to be able to search for music, to download music, and to
6 distribute copies of music.

7 Q. What, what happens if, if the peer that's downloading and
8 distributing the music file is disconnected from the internet?
9 Can they still engage in that, that activity at that moment?

10 A. No. When a peer is disconnected from the internet, it
11 can neither send nor receive files from any other computer on
12 the -- across the internet.

13 Q. And did you when you were listening to Cox's counsel's
14 opening statement see a box saying Cox has no control over the
15 infringement?

16 A. I remember seeing that, yes.

17 Q. And, and what's your reaction to that?

18 A. I disagree, and I disagree for two reasons. One is that
19 Cox is the only party who can take an internet -- an IP
20 address and determine what customer was using that internet
21 address at that point in time, so they're the only ones who
22 can actually forward that notice to an actual customer who
23 might be able to affect the behavior.

24 MR. BRODY: Your Honor, I have an objection.

25 THE COURT: What's your objection?

1 MR. BRODY: It's outside the scope of the report.

2 THE COURT: This testimony about --

3 MR. BRODY: Yes.

4 THE COURT: Come to sidebar, please.

5 NOTE: A sidebar discussion is had between the Court
6 and counsel out of the hearing of the jury as follows:

7 AT SIDEBAR

8 THE COURT: Your partners may want to hear. Go
9 ahead.

10 MR. ZEBRAK: Me or him?

11 THE COURT: No, no.

12 Your objection, sir.

13 MR. BRODY: Her report contains a discussion of how
14 Cox's system operates. That's fair game, that sort of
15 summary. Her report does not opine about Cox's ability to
16 control people. It does not -- it certainly doesn't opine
17 about vicarious liability, which is effectively what he just
18 asked her. So I think it's just inappropriate.

19 I have no problem with her describing how the system
20 operates, but the second step, drawing the conclusion that Cox
21 can control, that's inappropriate, and it's not in the report.

22 THE COURT: Overruled. There's nothing more basic
23 than the fact that the ISPs have the customer numbers and can
24 identify specific customers and that they're -- and that they
25 can terminate them and that they can notify them and they have

1 contact with them. There's nothing controversial about that.

2 MR. BRODY: And I have no controversy with that.

3 THE COURT: Okay.

4 MR. BRODY: They can do what they can do. Most of
5 that's not in dispute.

6 What I do have a dispute about is the use of the
7 word "control," which supports a legal conclusion, and the --
8 well, that's what I have a problem with.

9 THE COURT: Okay. All right. I think you're
10 hashing it too finely. She's not using that as a legal term,
11 and you certainly are not going to argue that.

12 MR. ZEBRAK: No, sir.

13 THE COURT: But focus her on the technical
14 capacity --

15 MR. ZEBRAK: Yes, sir.

16 THE COURT: -- of the ISP system.

17 MR. ZEBRAK: Sure. And, Your Honor, just while
18 we're on the record, to be clear, Your Honor has already
19 instructed the jury that terminology will be used, but it's
20 being used in a factual or technical sense, that the jury
21 ultimately will follow the law and apply it to these facts.
22 And I'm just talking about control in a technical sense of --

23 THE COURT: Yeah. Stop using the word "control."
24 If you can use another word, you know, access, capacity to do
25 this or to do that, okay?

1 MR. ZEBRAK: Yes, sir.

2 THE COURT: All right. Thank you, counsel.

3 MR. BRODY: Thank you.

4 NOTE: The sidebar discussion is concluded;
5 whereupon, the case continues before the jury as follows:
6 BEFORE THE JURY

7 THE COURT: We lost a juror for the moment here.
8 We'll just wait a minute. And we'll take a break at about
9 quarter to eleven, if that works for everyone else. Good.
10 Thank you.

11 As you-all know, if you need to stand and stretch at
12 any time and if you need a break, while we're at sidebar is a
13 perfect time to escape the room, but if you want a little more
14 time and a formal break, then just raise your hand, get my
15 attention, and I'm happy to oblige at any time. All right?

16 MR. ZEBRAK: May I continue, Your Honor?

17 THE COURT: No. We're down one juror.

18 MR. ZEBRAK: Oh, I'm sorry. I didn't realize.

19 THE COURT: Okay. You're focused.

20 MR. ZEBRAK: You're generous, Your Honor. Thank
21 you.

22 THE COURT: You know, on Friday mornings or Fridays
23 each week, all the judges have a criminal docket starting at
24 9:00, or actually starting at 8:30 now.

25 MR. GOULD: It sounds like our juror needs some help

1 getting back in the courtroom.

2 THE COURT: Ah, okay. The door is locked.

3 MR. GOULD: It sounds like she needs some help.

4 THE COURT: Well, she may have gone around the other
5 way, huh?

6 MR. ZEBRAK: You know, Your Honor, I've done some
7 bad direct examinations, but this takes the cake.

8 THE COURT: There we go.

9 THE COURT SECURITY OFFICER: All right, Your Honor,
10 we're good to go.

11 THE JUROR: Sorry, Judge.

12 THE COURT: No, I didn't realize the door was locked
13 to come back in.

14 All right. As I was saying, on Friday mornings,
15 we -- each judge has a docket of criminal cases starting at,
16 you know, 8:30 for me on Friday, and then there's a civil
17 docket, and we really don't -- can't control a lot of that.
18 The parties decide when they want to have issues heard.

19 I've been able to get -- move most of my docket, but
20 we probably won't start at 9:00 on Friday. We'll probably
21 start closer to either 10:15 or 10:30, and I just wanted to
22 give you that information, all right? Okay.

23 All right. Please go ahead.

24 MR. ZEBRAK: Sure. Thank you.

25 BY MR. ZEBRAK:

1 Q. So, Ms. Frederiksen-Cross, could these networks function
2 without hash values being reliable?

3 A. No.

4 Q. And before we had that sidebar, what, what happens with
5 respect to the user that's downloading or distributing if
6 their internet access is taken away?

7 A. Then they can't download and distribute.

8 Q. Let's, let's shift gears for a moment and -- or actually
9 not for a moment. Let's shift gears and talk about your
10 review of the MarkMonitor system, okay?

11 A. Okay.

12 Q. So you said MarkMonitor's role was to detect infringement
13 of -- and report it to Cox, correct?

14 A. That's correct. Cox and other subscribers, but -- or
15 other ISPs, but in this case, Cox is the focus.

16 Q. Okay. And at a high level, would you describe what your
17 review of the MarkMonitor system consisted of?

18 A. Sure. I reviewed the MarkMonitor source code. I
19 reviewed evidence produced by the MarkMonitor system. I
20 reviewed sound recordings that corresponded to the hashes of
21 infringing content. I reviewed samples of the notices that
22 MarkMonitor sent out and records about how many notices it had
23 sent out, and I also reviewed records that provided -- that
24 were drawn from MarkMonitor's records that provided
25 information about both the songs and the Audible Magic

1 verification associated with those songs, so song files and
2 Audible Magic verifications.

3 Q. And you -- did you speak with anybody at MarkMonitor?

4 A. I did have the opportunity, as I mentioned, to discuss
5 the operation of the MarkMonitor system with two MarkMonitor
6 employees, and I also had the opportunity to read their
7 depositions and/or declarations and some of the other
8 information that was made available to me about the system.

9 Q. Okay. Let's jump in in more detail to that MarkMonitor
10 system. What, what are the components of that system?

11 A. If we could go to the next slide, I have the three
12 principal components listed.

13 Q. Okay. What's the first component?

14 A. The verification module.

15 Q. And what is that?

16 A. The verification module is used to identify -- or to
17 create a database of known infringing works, and so there's
18 really two parts to that. One is downloading works, and then
19 the other is confirming their content, so you know that a
20 particular hash is associated with a file that is known to
21 contain some of plaintiffs' -- you know, either one of
22 plaintiffs' files or in some cases multiples of plaintiff's
23 files.

24 Q. Sure. So you mentioned downloading the file. Where is
25 it downloaded from?

1 A. It's downloaded using the peer-to-peer networks.

2 Q. I see. And what's the detection module?

3 A. The detection module then is the part that goes out to
4 the peer-to-peer networks to see who is trading in those
5 files, you know, who is, who is creating copies of files and
6 distributing, using that particular hash or using that known
7 file.

8 Q. And what's the notification module?

9 A. That's the part that based on the evidence MarkMonitor
10 collects, prepares and sends notifications to the ISPs like
11 Cox about the activity it detects.

12 Q. Sure. Could you describe the verification module in more
13 detail?

14 A. I can. Can we go to the next slide for that?

15 Q. Sure. So can you quickly walk us through what's depicted
16 here in this slide?

17 A. Yeah. Reading from left to right, and this is just sort
18 of the data flow in this process, the Recording Industry of
19 America provides a list of copyrighted works to MarkMonitor.
20 Using things like the title of those works and the artist
21 involved, MarkMonitor searches the internet to identify
22 potentially infringing files on the peer-to-peer networks that
23 we're talking about today, and then the first time it finds a
24 file, just the first time, it downloads a full copy of that
25 file, and it submits that copy of the file to Audible Magic so

1 that Audible Magic can confirm what that file contains, and it
2 gets back from Audible Magic a response that lets it tell if
3 that file has been identified as having the artist and title
4 that MarkMonitor thought it might have, and if it does, it
5 makes an entry in its database of known infringing files.

6 So that has the file's hash and artist and title and
7 information that MarkMonitor can subsequently use when it sees
8 another copy of that hash.

9 Q. Sure. And could you explain a little bit more about what
10 Audible Magic's role is here?

11 A. Well, again, Audible Magic takes an unknown file and it
12 identifies that file as either having or not having one of the
13 protected works -- specific protected work actually, and it
14 passes back the artist and title.

15 Q. And do you have a sense about how widely used Audible
16 Magic is?

17 A. Well, it's used in a lot of different contexts besides
18 just MarkMonitor. I mean, that's certainly not their only
19 customer. My understanding from discussing the system with
20 MarkMonitor's engineers is that they process on the order of
21 10 million transactions a day.

22 Q. And, I'm sorry, you said MarkMonitor engineers.

23 A. Oh, I'm sorry. Well, Audible Magic engineers. I
24 misspoke. Thank you, Counsel.

25 Q. Okay. So you say you've interviewed engineers at Audible

1 Magic?

2 A. Yes. I also spoke to an engineer at Audible Magic about
3 the system.

4 Q. And what -- do you have a sense -- and so your testimony
5 is that Audible Magic -- and what is, what is a transaction,
6 when you say it's used for millions of transactions per day?

7 A. That's a request for identification. That's what I'm
8 calling a transaction is someone sends them a request for
9 identification of a song, and they do that about 10 million
10 times a day.

11 Q. And, and you did a review of, you said, of -- did you say
12 of the Audible Magic source code as well; is that correct?

13 A. I was given the opportunity to review the Audible Magic
14 source code, to talk to their people, and to get an
15 understanding of how the system operates. I actually even had
16 the opportunity to use it myself and to -- so that I could
17 examine the kinds of data that a finger -- an Audible Magic
18 fingerprint, you know, what does that look like, what does it
19 contain, and then what does their response have.

20 Q. Have -- what did you look up using the Audible Magic
21 tool?

22 A. I installed the fingerprinting software on my laptop, and
23 I used files from the hard disc that was produced in this
24 litigation that contains copies of the infringed works that
25 were downloaded from the internet and identified by hash. So

1 I took those files -- or a sample of those files, submitted
2 them to Audible Magic, got back their response, and then to be
3 able to, to convince myself that the response was accurate
4 because I had picked my samples at random and some of the
5 songs I wasn't familiar with, I actually went out to iTunes
6 and got copies of the songs so that I could play the official
7 iTunes version and compare it to the song on the hard disc.

8 Q. And what did you conclude?

9 A. They were the same. As best as my ear can discern, they
10 were identical.

11 Q. And do you have any reservations about the reliability of
12 the Audible Magic technology?

13 A. I do not.

14 Q. Could you walk us through in a little more detail how
15 this identification process works to create a database of
16 known infringing files by hash?

17 A. Yeah. If we could go on to the next slide, I have a
18 similar little data flow there.

19 Q. Sure. And just -- there's a lot of information that
20 appears on this slide. Could you just briefly walk through
21 what's being depicted here?

22 A. Yeah. One thing I want to do, just to introduce a new
23 image here, is I want to start in the middle of the slide, if
24 I may, and you see I have a fingerprint there with a music
25 symbol next to it. Audible Magic gets recordings from the

1 content providers, that is to say, from the record companies,
2 and it uses its patented software to create the fingerprints
3 that are present in each song recording, and it puts those in
4 a database along with information like the song's artist and
5 title, and that's what I'm going to call a reference database.

6 So I've shown it in the kind of orange-gold color
7 here that's the reference database of music that Audible Magic
8 has. So then the way this process works is MarkMonitor has
9 downloaded a file from the internet --

10 Q. Excuse me. Is that on the left column?

11 A. On the left-hand column, yes.

12 Q. Okay.

13 A. MarkMonitor has downloaded a file now, and, you know,
14 it's found that file by searching for the artist and title, so
15 it wants to confirm that that's what's in that file, and so a
16 fingerprint is generated from the file. Audible Magic uses
17 that fingerprint, which is the blue fingerprint I show on the
18 left here, to match against the fingerprints in the reference
19 database and to search for that particular fingerprint, and if
20 it finds it, then it's able to say, okay, I've matched it and
21 I know the artist and title.

22 So that content identification process is what, is
23 what I'm calling the matching step there.

24 And then Audible Magic sends back to MarkMonitor
25 information about whether it was able to find a match and if

1 it was able to find a match, what's the artist and title and
2 album that that unknown fingerprint matched to.

3 Q. Okay. And then -- and this -- if you go back to the
4 prior slide, once Audible Magic returns a match, is that then
5 what gets populated in MarkMonitor's database of known
6 infringing files?

7 A. Right. MarkMonitor updates its database to reflect that
8 for the information that it collected when it downloaded that
9 file to reflect that now it's been matched --

10 Q. Okay.

11 A. -- and here's who it is.

12 Q. And that's the verification process?

13 A. That's the verification process on the MarkMonitor side,
14 yes.

15 Q. Excuse me, the verification module, right?

16 A. Yes.

17 Q. Okay. And could you explain what the collection module
18 is, generally speaking?

19 A. Yeah. If we can go forward back to the slide we left
20 off?

21 The collection module is the part that actually goes
22 out to peers on these peer-to-peer networks and identifies
23 whether or not those peers are copying and distributing the
24 file.

25 Q. Okay. And I see two hands have -- doing a handshake in

1 the middle there. What is that depicting?

2 A. Well, for BitTorrent, that's actually what it's called, a
3 handshake, but it's -- for instance, if I'm on a machine -- on
4 a computer and I'm interacting with a swarm of peers, I make a
5 handshake with each computer in that swarm where I say this is
6 what I'm looking for, and they can respond back whether they
7 have it and how much they have and which pieces they have, and
8 so that's, that's what that handshake represents.

9 Q. So --

10 A. It's the beginning of the download process really, but no
11 content has actually been -- no actual music content has been
12 transferred yet.

13 Q. So what's the significance of a handshake being between
14 the MarkMonitor computer and the Cox user computer here in
15 this slide?

16 A. Well, again, the MarkMonitor collection agent behaves
17 exactly like any other peer except that it's creating these
18 evidentiary records with respect to reaching out to peers,
19 making a handshake with the peers, getting information about
20 what the peers have. So the, the MarkMonitor collection agent
21 is shaking hands with a Cox peer in this, in this slide.

22 Q. And in this slide, could you just -- so it says -- walk
23 us through what's happening in the left bubble off of
24 MarkMonitor, please.

25 A. Okay. So once the MarkMonitor system connects to that

1 specific peer, that's essentially the commencement of a
2 download process, and so certain information is exchanged back
3 and forth between the MarkMonitor system and a peer at that
4 time, and the purpose of this exchange of information is to
5 verify that the peer is online, actively running a BitTorrent
6 client or one of the other clients that we've discussed,
7 actively responding to requests for a particular hash value
8 that has been verified to have known content that is some of
9 plaintiffs' copyrighted works.

10 And then, you know, because this is, is using the
11 hash which is what the BitTorrent system itself uses, at that
12 point, instead of downloading content, it breaks off the
13 connection because there's no need to -- the peer has already
14 said, yes, I have the hash, I have these pieces of the hash.
15 So at that point, the system breaks the connection and creates
16 an evidentiary record that's -- that records that exchange of
17 communication.

18 Q. What -- it says: Hash match (no need to re-download).

19 Why is that on your slide?

20 A. Just to remind me to point out, A, that it doesn't
21 actually download the file, it doesn't create another copy of
22 the file, but it has used that hash, that is, the fingerprint
23 of the file, just as any BitTorrent client would, to say this
24 is the file.

25 Yes, I've -- and the peer is responding, yes, I have

1 that file or I have pieces of that file.

2 Q. And when you say re-download it, is that because in the
3 -- one step earlier in the verification module, MarkMonitor
4 already downloaded a file that has that hash?

5 A. That's correct, yes. It's a known hash here, so there's
6 no need to download it.

7 THE COURT: Can we stop here for our morning break?
8 Does that work?

9 MR. ZEBRAK: Of course, Your Honor.

10 THE COURT: All right.

11 MR. ZEBRAK: We don't have that much more.

12 THE COURT: Okay. Then let's take 15 minutes.

13 We'll come back and continue the testimony. Thank you.

14 You're excused.

15 NOTE: At this point, the jury leaves the courtroom;
16 whereupon, the case continues as follows:

17 JURY OUT

18 THE COURT: All right. Anything before we break?

19 MR. ZEBRAK: No, Your Honor.

20 THE COURT: Okay. All right. Let's take 15 minutes
21 then. We're in recess.

22 NOTE: At this point, a recess is taken; at the
23 conclusion of which the case continues in the absence of the
24 jury as follows:

25 JURY OUT

1 MR. BRODY: Sorry.

2 THE COURT: No, that's all right. Any preliminary
3 matters?

4 MR. ZEBRAK: Not from the plaintiffs, Your Honor.

5 MR. BRODY: We're trying to work out some issues
6 with respect to some of the exhibits. It just raises a lot of
7 questions. I'm not sure we're --

8 MR. OPPENHEIM: So, Your Honor, after
9 Ms. Frederiksen-Cross completes her examination, we're going
10 to call Samuel Bahun from MarkMonitor.

11 THE COURT: Right.

12 MR. OPPENHEIM: Many of his exhibits are not normal
13 documents. They're native files, which we can't just hand him
14 a paper copy of, obviously, and because we can't -- anytime we
15 publish, the jury sees it, we're trying to work out in advance
16 whether there was just no objections to the list of native
17 files, in which case we could just publish right away. Then
18 everything will go much more quickly.

19 So that was the issue, and we were trying to work it
20 out in advance, but I'm not sure where we are.

21 MR. BRODY: We're trying to work it out is where we
22 are. I think there's a lot of progress we can make, but I
23 just need to have a fuller conversation with --

24 THE COURT: Okay. Which you're going to do --

25 MR. BRODY: Which we're going to do over lunch.

1 THE COURT: Yeah. Right.

2 MR. OPPENHEIM: So our issue may be that we'll get
3 to Mr. Bahun before lunch --

4 THE COURT: Yeah.

5 MR. OPPENHEIM: -- I suspect from the current
6 timing, unless Your Honor wants to take an early lunch, but I
7 made the mistake of suggesting that yesterday.

8 I'm not going to do that again.

9 THE COURT: Yeah. I'll give you an opportunity to
10 work it out after we're done with Ms. Frederiksen-Cross, but,
11 you know, this is not the time to be working this stuff out.
12 And so if you can't work it out, then I'll rule on objections
13 as we move along.

14 MR. OPPENHEIM: Yes, Your Honor.

15 THE COURT: Okay?

16 MR. BRODY: Fine.

17 THE COURT: All right. Thank you.

18 All right. Joe, let's get our jury, please.

19 NOTE: At this point, the jury returns to the
20 courtroom; whereupon, the case continues as follows:

21 JURY IN

22 THE COURT: All right. Please have a seat.

23 All right. Counsel, please continue.

24 MR. ZEBRAK: Thank you, Your Honor.

25 BY MR. ZEBRAK:

1 Q. Ms. Frederiksen-Cross, before we took the brief break,
2 you were discussing this collection module. Without us
3 getting into the details again, could you explain why it's
4 called a collection module?

5 A. Because its role is to collect evidence from the peers
6 that it contacts.

7 Q. And when I asked you the three components of the
8 MarkMonitor antipiracy system, the second component here says,
9 "detection module."

10 Is that something different from the collection
11 module we've been discussing?

12 A. No. That's, that's the component that, that detects and
13 collects this evidence.

14 Q. Okay. Thank you.

15 Was there anything else about this slide that you
16 wanted to cover before we moved on?

17 A. I don't recall if I mentioned that the peer provides
18 information about how much of the file it has available. So
19 remember I said they could collect by pieces? The peer, when
20 it answers up to that handshake, will provide information
21 about whether it has the full file or part of the file and
22 which parts that it has, but beyond that, I think we've
23 covered everything.

24 Q. And -- okay. And then what's -- what happens in the next
25 step in this process?

1 A. The MarkMonitor system after making this connection and
2 collecting this information creates the evidence, what's
3 called an evidence package or case package for that particular
4 peer for that particular communication that it just engaged
5 in.

6 Q. Could you explain the evidence packages in more detail
7 that you're describing?

8 A. Yeah. Could we go to my next slide, please?

9 Q. Sure. And -- okay. And what's depicted on this slide
10 generally?

11 A. Well, each, each evidence package or case package, as
12 they're sometimes called, is -- contains six different files
13 that record different aspects of the information received from
14 the peer, and so this lists those six files.

15 Q. And, you know, without, without going into detail in all
16 six files, what -- is there certain key aspects of this
17 information that's important to discuss today?

18 A. Well, I think I'd like to just touch briefly on the first
19 three. The first one, the activity log, gives you things like
20 what time the contact occurred and, you know, what was going
21 on in that particular contact.

22 The second one, the communications log, is a more
23 detailed record of the exchanges. So it says at this
24 particular time, I asked for this particular file, and the
25 peer responded back saying it had this file at this particular

1 time. And so it provides some rich information about what
2 happened during that exchange.

3 And then the content information is important
4 because that's where it passes back that BitTorrent -- bit
5 field or the size, the amount of the file that that particular
6 peer has, and that information is used later in the
7 processing, so I wanted to just point to that's where that
8 comes from.

9 Q. And are hash values involved in this size or bit field
10 data at all?

11 A. Not in the size data itself, but it is the hash of a
12 particular requested file or requested torrent, which is a
13 collection of files that the bit field pertains to. And the
14 hash is recorded in the evidence logs as well.

15 Q. And Cox's counsel in their opening statement made
16 reference to the word "spying." Do you recall that?

17 A. I think I heard that word a couple of times in their
18 opening presentation, yeah.

19 Q. In this process when MarkMonitor goes to a peer-to-peer
20 network to request a file -- well, first of all, do you have
21 an understanding of whether that process involves spying?

22 A. No. The MarkMonitor software acts like just any other
23 peer with two exceptions. It creates a record of what it's
24 done, and it doesn't typically download -- at least in the use
25 that we see in this case, it doesn't download the file.

1 I wouldn't characterize that as spying, because it's
2 just a random peer in a swarm that's been provided through the
3 normal BitTorrent process and it's creating a record of the
4 communication. It's not looking into that person's life or
5 computer or anything.

6 Q. Okay. And I believe you said that the third component of
7 the MarkMonitor system is a notification module; is that
8 correct?

9 A. That's correct.

10 Q. Okay. Could you explain that to the jury in more detail?

11 A. Yeah. Can we advance the slide here? Again, the
12 notification module takes information that was obtained from
13 those evidence files, and it prepares an e-mail notice by
14 merging that information with -- you can think of it almost as
15 a form letter that then gets sent out to the ISP requesting --
16 or notifying them that this particular detection has occurred.

17 And so for each detection that they make,
18 potentially they could prepare one of these notices. There's
19 some other factors that come into play, but we'll talk about
20 those, I'm sure.

21 Q. Sure. And I'm sorry, I didn't mean to interrupt you. I
22 thought you had finished.

23 And so on the left side of this slide, could you
24 walk through how -- you know, how the MarkMonitor -- after
25 MarkMonitor detected what it concluded to be an infringement

1 and notified Cox, how that worked with regard to the actual
2 e-mail?

3 A. Sure. The MarkMonitor system reads the data. It
4 prepares the e-mail. That e-mail then gets sent to the ISP,
5 in this case Cox. It does that by looking up the IP address
6 and saying, oh, this is the ISP that administers that
7 particular IP address.

8 And the e-mail addresses that I show here on the
9 left, antipiracy2@riaa.com, is where -- is the sender identity
10 in that e-mail, and abuse@cox.net is the recipient, and that
11 is an e-mail address that Cox publishes to the world. It's
12 that if you have a complaint about, for instance, copyright,
13 this is who you're supposed to e-mail to.

14 Q. Sure. And could you explain to the jury what you have on
15 the right side of this slide?

16 A. Yeah. I think I alluded a moment ago that there are some
17 other tests that are made before a notice is sent out in order
18 to ensure the currency of the notice and to send the most
19 relevant notices.

20 So the file has been verified as infringing before
21 the detection process, the evidence collection process ever
22 can be used to send a notice. So if a file hasn't been
23 confirmed to contain infringing content, that, that evidence
24 package is not eligible to send a notice.

25 Then the, the system also tests -- remember I said

1 that the size information gets used later. The system looks
2 at the size of the file and the size that's passed back from
3 the peer, and if the file isn't at least 90 percent complete,
4 if the peer is not advertising that it has at least 90 percent
5 of the file to share, then no notice is sent.

6 Also, just to make sure that the information is
7 current enough that Cox and ultimately hopefully the recipient
8 will take action upon it, it only produces notices if the
9 actual detection occurred within the last 48 hours of when the
10 e-mail preparing notice ran. So it doesn't send notices on
11 things that are months old. It has to be within the last 48
12 hours.

13 And then finally, if the IP address that was
14 captured during the interaction with the peer can't be looked
15 up for some reason to figure out who the ISP is, then
16 obviously no notice would be sent because you don't know who
17 to send it to. So Cox only gets the notices that are related
18 to Cox customers, and other ISPs would get the notices related
19 to their customers.

20 Q. And is this slide a complete depiction of every nuance of
21 the notification process?

22 A. No. There are other, other checks and requirements that
23 the system goes through as well in order to, to ensure
24 accuracy and the appropriateness of the, the message that's
25 being sent, but I think these are probably the most important

1 ones.

2 Q. And where does the information come from that MarkMonitor
3 includes in the infringement notice that goes to Cox reporting
4 a Cox subscriber for infringement?

5 A. The vast majority of it comes originally from the peer
6 and then from the evidence files where that was stored after
7 the interaction with the peer.

8 Q. And could you explain to the jury in a little more detail
9 what key information is included in the infringement notice
10 from your perspective?

11 A. Yeah. The -- I mean, a lot of the really important
12 things for the ISP to be able to process this notice or for
13 the consumer who receives it, assuming it's forwarded, to be
14 able to understand it and how it relates to their computer
15 system is you have to have -- the notice identifies the ISP
16 based on the IP and port address, and that's also reflected,
17 the IP and the port address are also contained in the notice.
18 Who the ISP is, of course, is a part of the notice because
19 it's who the e-mail is sent to.

20 The infringing file by name and by the file hash
21 that was detected, so if it's a torrent hash or the other --
22 one of the things I didn't mention about the other
23 peer-to-peers is at this point in time that's relevant for the
24 litigation, they were exchanging whole files, so it would be
25 the hash associated with that file.

1 A sample track infringe -- so -- and by sample
2 track, I mean if the torrent was an entire album that maybe
3 had ten tracks on it, it wouldn't list all ten of them. It
4 would just list a sample, you know, this is one of the tracks
5 from that torrent to help the recipient of that notice
6 understand what music was causing the problem, and the date
7 and time of detection both so that the recipient in the notice
8 can understand it, but also because Cox needs the date and
9 time to be able to figure out who the consumer is, because
10 MarkMonitor doesn't have records about who Cox's customers
11 are. That's the part that Cox has to be able to supply in
12 order to forward the notice.

13 Q. And did I hear you correctly earlier that you reviewed
14 some of the actual notices that MarkMonitor sent to Cox?

15 A. Yes, I did.

16 Q. And did you also say that you looked at a larger set of
17 data about sort of the whole complete set of notices that
18 MarkMonitor sent to Cox?

19 A. That's correct. There were approximately a quarter
20 million notices in the, in the set.

21 Q. And do you have any understanding about whether
22 MarkMonitor is able to detect the entirety of the unauthorized
23 reproduction and distribution of, you know, the list of works
24 that the RIAA asked it to find on peer-to-peer networks?

25 A. That's not technically feasible to be able to capture

1 every client -- or every peer on the network that could be
2 exchanging information that they weren't entitled to exchange.

3 Q. And why -- I'm sorry.

4 A. It's just, it's just the sheer size of the network. You
5 know, again, you're talking about a network that has hundreds
6 of millions of users, and at any point in time, there's 15,
7 20, 30 million of them active. It's just not feasible to have
8 one person monitor that much traffic. Technically, it's a
9 problem.

10 Q. In a moment -- well, could you remind the jury about your
11 overall conclusions about the accuracy and reliability of the
12 MarkMonitor system?

13 A. Yes. I find that the system accurately detects peers
14 that are copying and distributing the plaintiffs' copyright
15 works, and I find that it prepares and sends accurate notices
16 about that infringement activity that it detects.

17 Q. And Cox's counsel in Cox's opening statement said that
18 there's, I believe, no proof that plaintiffs -- that a Cox
19 customer actually possessed a copy of plaintiffs' works. Do
20 you have a reaction to that?

21 A. I completely disagree.

22 Q. And could you explain why?

23 A. The evidence that I saw was, first of all, voluminous in
24 nature. The evidence -- I examined about 175,000 evidence
25 cases. Every one of those cases included hash information for

1 the file that the peer itself had reported that it was making
2 available to distribute, and these peers, recall, are on this
3 peer-to-peer file-sharing network.

4 This is not just some random search of people's
5 computers, but it's actual activity that the peer running the
6 client software is responding to a request for a file with
7 information about the file it has to share.

8 And the, the information I looked at was very
9 internally consistent. For instance, I could take a hash from
10 a notice and trace it all the way back to a hash in a record
11 that MarkMonitor had about when that information was collected
12 from that peer, and I could match up other pieces of the
13 notice. You have the time matches; you have the title
14 matches.

15 I could also use the hash to match it to that copy
16 of the infringing work that was on the disc and play the music
17 for myself and say, yes, you know, this is, this is this song.
18 I can go out to iTunes and verify that.

19 And when I looked at the whole set of the evidence I
20 got, it was logically consistent from end to end, from song to
21 detection to notice, and so based on that, you know, I'm very
22 confident that these -- this is reliable information and
23 accurately documents what those clients were doing.

24 Q. So Cox's counsel in Cox's opening statement said that
25 there's no proof that the files that MarkMonitor identified in

1 these infringement notices reporting Cox subscribers to Cox
2 actually contained copies of the works in question here. Do
3 you have a reaction to that?

4 A. Again, I think that completely ignores the evidence of
5 the hashes and the fact that the hashes themselves have been
6 verified against copies of songs provided by -- or
7 authenticated through Audible Magic to fingerprints of songs
8 that were provided by the recording -- by the recording
9 industry.

10 So I think that that information again is reliable
11 and accurate, and so I disagree with the statement completely.

12 Q. Just to be clear, you're not providing a legal opinion
13 here today, are you?

14 A. No. I am here just to describe the technology and the
15 evidence I've seen and help the jury understand what that
16 evidence is and the story it tells.

17 Q. Just another couple questions and we're going to turn to
18 the CATS system quickly. Do you recall that Cox's counsel
19 during opening statement for Cox said that there's no proof
20 that any online files were unlawful copies of the works at
21 issue in this case? Again, without giving a legal opinion, as
22 a technical matter, what's your reaction to that?

23 MR. BRODY: Objection, Your Honor. I don't think --

24 THE COURT: Rephrase the question. Just ask whether
25 they were copyrighted works, and I think you can narrow it

1 down.

2 MR. ZEBRAK: Sure. Let me --

3 THE COURT: Thank you. Go ahead.

4 BY MR. ZEBRAK:

5 Q. Well, let me rephrase the question as Your Honor
6 suggested.

7 When MarkMonitor identifies a peer, a Cox subscriber
8 on one of these file sharing networks with a file on their
9 computer, is MarkMonitor able to identify whether that's a
10 copy of a file that the peer obtained lawfully?

11 MR. BRODY: Objection, Your Honor.

12 MR. ZEBRAK: I could say it differently, Your Honor.

13 THE COURT: Yeah. Sustained.

14 MR. ZEBRAK: Sure.

15 BY MR. ZEBRAK:

16 Q. When MarkMonitor identifies a peer, a Cox subscriber on a
17 network with a file, can it tell if the peer obtained it from
18 another peer on the network as opposed to a legitimate source
19 like iTunes or Amazon or something like that?

20 A. Well, in the evidence I examined, it was often the case
21 that the -- I mean, in approximately, I think, 15 percent of
22 the records, the peer was still collecting the evidence. So
23 they only had part of the file, you know, 90 percent but not
24 100 percent. So that certainly tells me that in those
25 instances, that peer was not getting it off of Amazon.

1 And with respect to the, you know, the implication
2 that all of these peers might have gotten something legally
3 and then gone out there and created torrents for it
4 presumably -- because if they got it legally, they wouldn't
5 have a torrent -- it's kind of like saying you walk into a bar
6 and there's a guy there with a beer in his hand. Where did he
7 get it? Well, he probably bought it in the bar.

8 Is it possible that one of those guys or two of
9 those guys were the ones who first created a torrent? As a
10 hypothetical, that could be possible, but it's improbable.

11 MR. BRODY: Your Honor, I object. That's
12 speculation.

13 THE COURT: Hold on, hold on. No, overruled. I'm
14 going to allow her to use the example. Go ahead.

15 THE WITNESS: I'm just saying it would be extremely
16 improbable to think that that could happen on such a massive
17 scale, that somehow all of these people bought something and
18 then created torrents for it so they could give it away to
19 total strangers en masse. That's just a nonsensical
20 interpretation of the evidence.

21 BY MR. ZEBRAK:

22 Q. And even -- let's take -- call that a nonsensical
23 interpretation of the evidence, that somebody would -- well,
24 let me not --

25 A. And I didn't mean any disrespect by that, but it just --

1 it flies in the face of reason.

2 Q. Sure. No, I understand.

3 Let's take that hypothetical scenario where it was
4 something that someone obtained from, let's say, iTunes and,
5 you know, was on the network with it. What, what would happen
6 for anyone else on the network who wanted that file from that
7 person?

8 A. Well, they would start downloading it if they opened the
9 torrent that was associated with the file, or at least at some
10 point, they would begin downloading that content. Because
11 once the torrent is out there, that makes the file able to be
12 downloaded by other peers.

13 Q. And final, final question before we quickly cover the
14 CATS system: Do you recall during Cox's counsel's opening
15 statement an assertion was made that there's no proof that
16 Cox's customers actually provided copies of the files to
17 others that they were reported for -- in these notices to Cox?
18 Do you recall that?

19 A. I do recall that.

20 Q. And do you have a reaction to that?

21 A. I disagree with that statement, again, based on the
22 evidence that I've reviewed and my knowledge of how the
23 BitTorrent and Ares, Gnutella, and eDonkey software works, and
24 the fact that you cannot accidentally share a file via
25 BitTorrent, and it's extremely unlikely to do so, in my

1 opinion, via the other three products.

2 I just don't think that, that there is any lack of
3 proof that the Cox clients were participating in these file
4 sharing networks and were providing content that based on its
5 hash identification is plaintiffs' content.

6 Q. Sure. And for those Cox subscribers that were reported
7 in these notices that hadn't yet obtained 100 percent of the
8 file, I think you said there were about 15 percent of them
9 that had somewhere between 90 to 100 percent of the file; is
10 that correct?

11 A. Yes.

12 Q. What were -- what's your understanding, if any, of what
13 those peers were engaged in at that time of detection?

14 A. Well, I'm sure that they were probably distributing as
15 well as copying, but for at least some of them, when I went
16 through the evidence records, I could see that over time, the
17 amount of the file that they had moved from less than 100
18 percent when it was detected on one detection to later moving
19 to 100 percent of the file. So I know for a fact that they
20 were downloading copies.

21 Q. Sure.

22 A. And because of the tit-for-tat way that BitTorrent works,
23 it's almost impossible to conceive that they were not also
24 uploading those copies to others.

25 Q. What do you mean by the tit-for-tat way of BitTorrent?

1 A. BitTorrent and the other three protocols that we
2 discussed earlier are all designed to prioritize exchanges
3 with peers that are, are downloading to you. So if I have ten
4 peers asking me for content, I'm going to give content -- I'm
5 going to download from and give content to those four peers or
6 three peers that are giving me the best content exchange
7 possible. So I'm uploading as well as downloading.

8 And if you're not also uploading, the tit-for-tat
9 system kind of puts you at the back of the line, and although
10 it's still possible to get content if you're not uploading,
11 it's not the way these systems are designed to work, it's not
12 the way the protocols are designed to work. All of them have
13 built into them this notion of exchange, that it's two peers
14 exchanging content.

15 Q. Thank you. I'd like to turn your attention now to the
16 Cox CATS system, okay?

17 A. Okay.

18 Q. You said you had an opportunity to review the CATS system
19 in your work in this case?

20 A. Yes, I have.

21 Q. Okay. And at a high level, what did your review involve?

22 A. It involved, again, looking at the source code of the Cox
23 CATS system, some of the configuration data related to how
24 that system was set up to operate. I looked at copies of some
25 of the policies that the CATS system was intended to implement

1 so that I could see if its behavior was -- if it was actually
2 implementing those policies.

3 Q. Okay. And I'm not today going to -- well, strike that.

4 Can you walk us through what happens when
5 MarkMonitor sends an infringement notice by e-mail to Cox?

6 A. Yeah. Can we go to the next slide? Thank you.

7 So on the left, I have the MarkMonitor e-mail. When
8 it goes into the Cox system, it arrives in the mailbox
9 associated with abuse@cox.net, just like anybody's e-mail goes
10 to their e-mail box on their server.

11 The Cox system then has software that actually reads
12 that e-mail from the server and looks for things in the
13 e-mail, and based on what it finds, it does certain kinds of
14 processing, and so this -- I've kind of outlined the big steps
15 here. I mean, obviously, there's a lot of little steps in
16 between, but these are sort of the big pieces.

17 Would you like me to walk through them or --

18 Q. Yeah. If you wouldn't mind, please, what -- if you
19 could -- so once an e-mail is received at Cox's e-mail
20 servers, what happens next?

21 A. Well, the, the -- probably the biggest next thing from
22 the standpoint of this litigation, there are some important
23 things that happened back there, but the e-mail header is read
24 to identify who the e-mail is from, just like you might going
25 through your inbox look to see which e-mail do I want to read

1 first. That e-mail is checked against what's called a
2 blacklist, and a blacklist is a list of senders that -- whose
3 e-mail Cox will not process, and --

4 Q. And -- oh, I'm sorry.

5 A. No. If it's blacklisted, then the Cox system is not
6 going to take additional action in the steps that I'm going to
7 describe next on that e-mail. But assuming that the e-mail is
8 not on the blacklist, the Cox system then looks up -- or it
9 reads the rest of the e-mail. It then reads the whole e-mail
10 to pull out certain information, like that IP address that I
11 said was in the notice and the date and time, and it uses the
12 IP address and date and time to look up against its ICOM
13 system, which is just an internal Cox system for customers,
14 what customer was assigned that IP address at that specific
15 date and time, because then the Cox system can create a ticket
16 about that e-mail notice, and then that ticket gets processed
17 in the next phase of their processing.

18 Q. Sure. On the slide in the lower right corner, there's a
19 reference to an existing ticket and a new ticket. Can you
20 explain what that refers to?

21 A. Yeah. If a, if a particular Cox subscriber has gotten
22 multiple e-mail warning notices for copyright in the, in the
23 same day, within a 24-hour period, those can get rolled up
24 into a ticket. So the first, first notice in a day will
25 create a new ticket, but then if there was a second or third

1 or fourth notice, those get rolled up into that same ticket.

2 Q. Oh, and when you're talking about multiple notices,
3 you're talking about multiple notices necessarily from a
4 single submitter or what -- what were the permutations on how
5 that could work?

6 A. Okay. It could be multiple notices from MarkMonitor, or
7 there are other companies that provide similar service to
8 other rights holders in the industry, and so it could be maybe
9 a notice from MarkMonitor and then a notice from another
10 company that does copyright enforcement services. So the
11 e-mails don't have to all be from MarkMonitor.

12 Q. Is there something in the MarkMonitor notification
13 process that speaks to how frequent an e-mail notice can be
14 submitted to Cox?

15 A. In the MarkMonitor system, MarkMonitor actually -- once
16 it prepares an e-mail to send out, it puts that IP address and
17 the artist, title information, the identity of the specific
18 music file, in what's called a quarantine, and so it won't
19 send another e-mail out for a detection in the same day.

20 So it's not that you couldn't send two e-mails in a
21 day. Like, if I detected on a Thursday and detected on a
22 Friday, both of those e-mails might happen to go out on
23 Friday, but if I detected twice on Friday, I would not send
24 two e-mails. I would send one e-mail, and then the rest go in
25 the quarantine.

1 Q. And in your review of the notice data, did you become
2 familiar with whether that scenario you described of two
3 notices going out in a single day is a common circumstance?

4 A. I wouldn't characterize it as common. Out of, I think,
5 275,000 notices, it happened about 3,300 times, and I
6 inspected every one of those and verified that in each
7 instance, it was a case where the actual detection happened on
8 different days but multiple notices went out on that one
9 day -- multiple e-mails went out to Cox on that one day.

10 But I found no occasion where two occurrences of a
11 notice detected the same day went out -- both went out the
12 door.

13 Q. How were you able to review so much data?

14 A. I wrote simple programs to help me filter and extract the
15 information I wanted from the data so that I could look at
16 various things about the data, you know, how many were
17 BitTorrent, how many were the other types, how many went out
18 the same day.

19 Q. Sure.

20 A. How many times a customer got a notice.

21 Q. So then what happens once Cox either opens a new ticket
22 or rolls multiple notices into an existing ticket?

23 A. Okay. If you go to the next slide, let me kind of walk
24 through this. There's a thing in the Cox system called a
25 sender hard limit cap, and what that means is that for any

1 particular e-mail sender, there will be a hard limit -- or
2 there's a system default if it's somebody they've never heard
3 of, but there's a hard limit on the number of e-mails that the
4 Cox system will actually process from a particular sender in
5 one day.

6 And surplus e-mails are closed up until, I think the
7 default was 5,000, and then if there were more than 5,000
8 e-mails sent in a day, they kind of go into a holding pool
9 that might be processed the next day if they don't hit their
10 limit again.

11 Q. So let me ask you a question: So when an e-mail is
12 submitted, let's say Cox doesn't -- hasn't blacklisted the
13 submitter, right, so it isn't put off to the side, but it --
14 so it passes the blacklist gateway, and let's say it passes
15 this hard limit restriction.

16 A. Okay.

17 Q. What then happens?

18 A. Okay. Then the, the ticket is compared against the
19 subscriber's history to see how many tickets have they had in
20 the last 180 days, and depending on the number of tickets
21 they've had in the last 180 days, the system's programmed to
22 check that and to take different actions, depending on how
23 many tickets they've had.

24 It's kind of like a speeding ticket. You know, you
25 might get a ticket the first time, and if you're a habitual

1 offender, you might lose your license. You know, so it's --
2 it kind of goes through the gamut from just very -- on the
3 first ticket, really nothing happens. They just make a record
4 that the ticket has been received, and they take no further
5 action.

6 Q. Okay. So after Cox's CATS system looks at the subscriber
7 history, what actions from a software perspective could occur?

8 A. Well, the principal actions are called close -- which I
9 think we've already discussed, you just close the ticket and
10 move on -- hold, warn, suspend, and terminate. Hold is for
11 like the first ticket you get, you mark that you got the
12 ticket, so it goes in the history file, but you take no
13 further action. You're holding pending additional tickets.

14 Warn means you send the notice on to that individual
15 who was the offender, so you forward the notice that you got
16 to the offender, or in some cases, it's reformatted slightly
17 but not for the Cox system. It looks like they're just
18 forwarded. And that's the warn state. So you're forwarding a
19 warning to the consumer that they've been detected in this
20 activity and that it's illegal activity and so on.

21 After, let's see, first offense and then the next
22 seven are warnings.

23 Q. Okay. And then --

24 A. And then after that -- so you get warning after warning
25 up to a certain level, and then the next one is what they

1 called suspend, and there's two different kinds of suspend.
2 The first two suspenses just means that if I try to go on the
3 internet after I've had that many tickets, I get a -- I'm
4 redirected to a website that gives me a web page that I have
5 to read and acknowledge before I can go on, and that's just,
6 you know, making sure that I know I have a warning.

7 Then after a couple of those, you go to the next
8 level, which is to -- the website doesn't let me go on. I
9 have to pick up the phone and I have to call someone before I
10 can go on, and then they'll re-enable me, and I can go on my
11 way.

12 And the last one is what we call terminate.

13 Q. Okay. Let me before we explore terminate just ask you a
14 couple questions. Are each of the warnings essentially the
15 same process from a software perspective, or is there any
16 difference in what occurs when these warnings are issued?

17 A. Are you saying with respect to the e-mail that goes out
18 or -- I'm not sure what question you're asking, counsel.

19 Q. Well, let me take a step back. So the first notice that
20 comes in, you said it's just held without any action taken?

21 A. Correct. Yeah. It gets a record in the history file but
22 no further action taken. It doesn't go out to the, to the
23 customer.

24 Q. Okay. And then the warnings, is it essentially the same
25 process for each warning?

1 A. For the successive warnings in that level of handling,
2 yes.

3 Q. Okay. And then I believe you just explained the suspend
4 process as well, correct?

5 A. Right. Right. That's where the user is, at least for
6 moments and maybe as long as it takes to make a phone call,
7 restricted from internet access.

8 Q. So the user's internet access is not restricted at all
9 during the hold stage or the multiple warnings, correct?

10 A. Right. They just get an e-mail during the warning, and
11 the user would never even know it happened during the hold
12 stage. They would have no visibility to the fact that they'd
13 been detected in doing something wrong.

14 Q. And then at the suspend stage, is the user -- I know you
15 mentioned the user is required to call in. Is there also an
16 aspect of the suspend stage that's automated, that doesn't
17 involve calling Cox?

18 A. Yeah, that's what I meant. The first two suspensions,
19 they actually can just click to acknowledge and go back about
20 their business, and the next two, they have to call in and
21 talk to a customer support person.

22 Q. And who designed the Cox CATS system? And I'm not
23 talking about the specific individual, but who decides how the
24 CATS system operates?

25 A. Well, Cox does.

1 Q. I'm sorry, what's that?

2 A. Cox does.

3 Q. Cox does. So could Cox have programmed this, let's say,
4 to have three strikes and then termination, for example?

5 MR. BRODY: Objection.

6 THE COURT: Overruled.

7 THE WITNESS: Let me make something clear before I
8 answer that, and that's that termination -- this system does
9 not terminate a customer, and that's why I put the quotes
10 around "terminate." That was to remind me to explain to the
11 jury that the termination does not end a customer's internet
12 service.

13 What it does is instead, it sends the customer's --
14 the subscriber's history to a Cox person to review. So I want
15 to make that clear before I answer your question.

16 But Cox could have programmed the system to do
17 whatever they wanted to program the system to do. I mean,
18 this is just -- the programmers wrote the code initially to
19 apply these actions, and Cox chose the actions, and so
20 whatever they chose, you know, one strike, two strikes, three
21 strikes, ten strikes, that's up to what Cox decided to do.

22 MR. ZEBRAK: Thank you. I pass the witness, Your
23 Honor.

24 THE COURT: All right. Cross-examination?

25 MR. BRODY: Thank you, Your Honor. Sorry. Too many

1 toys here.

2 CROSS-EXAMINATION

3 BY MR. BRODY:

4 Q. Hello.

5 A. Good afternoon -- or good late morning, I guess.

6 Q. Nice to see you again.

7 A. Good to see you, sir.

8 Q. So that was a lot to take in. I want to go back through

9 some of it, try to hit some of the high points --

10 A. All right.

11 Q. -- and see where we are.

12 So let me talk a little bit with you about your
13 background and your professional experience. You said your
14 company is called JurisLogic; is that right?

15 A. Since 2017, yes.

16 Q. Okay. And the Juris part, I assume that refers to the
17 legal profession?

18 A. Yes.

19 Q. Yeah. So it's basically a legal consulting company; is
20 that correct?

21 A. Not entirely. We do work outside the legal profession as
22 well, though it's mostly directed to internal investigations
23 or, as I mentioned, companies who are engaged in mergers and
24 acquisitions and want someone to look at the software that
25 they're potentially buying.

1 Q. Yeah. So not entirely but primarily, fair enough?

2 A. I think that's fair to say, yes.

3 Q. Okay. And I think you said you've testified in hundreds
4 of cases? Did I hear that?

5 A. No. I said that I have, have worked on hundreds of
6 cases. I have testified in court 26 times and at arbitrations
7 seven or eight times. They don't all make it to court.

8 Q. And depositions 40 times, I think you testified.

9 A. Thirty-nine or 40. I don't know that we actually asked
10 about depositions here today, but it's 39 or 40. I'd have to
11 look at -- and count them real quick.

12 Q. And you, you mentioned some publications that you've
13 written. I think you mentioned -- I counted 77. I've been
14 known to miss or add, so let's call it -- I think you said 75
15 to 80.

16 A. Yeah, it's in that ballpark. I haven't counted them
17 recently myself.

18 Q. Okay. And by my count, 56 of those were for law schools,
19 bar associations, law offices, prosecutors, or basically legal
20 entities and conferences. Does that sound right?

21 A. I think that does sound right, yeah.

22 Q. Okay. You said you've worked 400 hours at 595 an hour?

23 A. I think in the ballpark of 400, you know, I would say
24 give or take five, but it's in that ballpark.

25 Q. So you've billed about a quarter of a million -- a little

1 less than a quarter of a million dollars in this case?

2 A. I think that math is correct, yes.

3 Q. I want to talk a little bit about -- a lot of the things
4 you talked about the jury hasn't seen yet. They haven't come
5 into evidence. So I wanted to kind of go through some of
6 those items.

7 THE COURT SECURITY OFFICER: Counsel, excuse me, the
8 jury can't hear you.

9 MR. BRODY: Oh, I apologize. I have been
10 frustrating juries for 40 years. I promise I'll do better
11 today.

12 (Laughter.)

13 BY MR. BRODY:

14 Q. I was starting to say that a lot of the material that you
15 were referring to has not yet come into evidence, so the jury
16 hasn't heard it or seen it, so I thought maybe we could create
17 a little checklist of the things that you relied on and are
18 important to your opinion and they should keep their eyes out
19 for, okay?

20 A. That's an excellent idea.

21 Q. I'm glad you agree.

22 So one thing is you've talked about information
23 about how these hashes are used and how notices are sent, and
24 that information is compiled in spreadsheets, right, or at
25 least a lot of it is?

1 A. As I received it, it was in spreadsheets or in a form
2 that could be loaded into a spreadsheet or database, yes.

3 Q. Okay. And there's a spreadsheet of the notices, right?

4 A. There are notices themselves on a spreadsheet of the
5 notices, yes.

6 Q. And --

7 A. And just to be clear, that records the information that's
8 put into the notices --

9 Q. Right.

10 A. -- and information about when they were mailed out and
11 things like that.

12 Q. And then there's, like, this mammoth file of the notices
13 themselves?

14 A. Mammoth file is a good word for it, yes.

15 Q. Okay. And then there's a spreadsheet that I think when
16 we were together before, you called the Audible Magic
17 spreadsheet, and that lists the hashes for files when they
18 were first found, it gives some of the information that
19 Audible Magic sent to MarkMonitor about the spreadsheets. You
20 remember that document as well?

21 A. Yes. I'm hesitating because I think I received it in two
22 different formats, but there was a spreadsheet and then also a
23 text/comma-separated-value spreadsheet for that, or a file for
24 that that I could load in.

25 Q. That's the same information, just in different formats?

1 A. As I received the original spreadsheet, there was --
2 actually I think that's the one that had an error in it where
3 part of the script that had been used to pull the data was
4 embedded in the spreadsheet, so I mostly used the other one,
5 but generally it was the same information.

6 Q. And then there's a -- you mentioned a hard drive with
7 some songs on it. I heard that correctly, right?

8 A. That's correct, yes.

9 Q. And that's what, a collection -- that's basically all of
10 the songs -- well, never mind.

11 And then there's a spreadsheet that's kind of an
12 index to that hard drive, right?

13 A. That's correct also, yes.

14 Q. Okay. Now, you looked at technical information about
15 Audible Magic, for example, right?

16 A. Some technical information in the source code, yes.

17 Q. Yeah. And you looked at a deposition, I think?

18 A. I'm sorry, yes, I did.

19 Q. Okay. The Audible Magic system works by matching files
20 to a reference database of all of the songs that are covered
21 by the system?

22 A. It actually works by matching this digital fingerprint of
23 a song to a database of digital fingerprints. It's not
24 matching a file to a file. It's, it's the digital fingerprint
25 to the digital fingerprint stored in the database.

1 Q. Okay. And you saw information about how the fingerprints
2 get to Audible Magic for being matched, right?

3 A. Yes. I actually got to test that process myself.

4 Q. Did you have a chance to inspect the Audible Magic
5 database of fingerprints?

6 A. The reference database?

7 Q. Um-hum.

8 A. I did not inspect the reference database.

9 Q. Okay. And did you -- well, did you talk directly to
10 anybody at Audible Magic? You said you interviewed some
11 MarkMonitor folks. Did you interview them?

12 A. Yes, I also spoke to an individual at, at Audible Magic.

13 Q. You -- with respect to the CATS system, you mentioned --
14 well, I'll save that until later. We'll get to the CATS
15 system in a while.

16 Let's talk a little bit about BitTorrent, and again,
17 I just want to get some vocabulary straight so that when we
18 get kind of to the substance of your opinion, we'll be talking
19 the same language.

20 Now, you talked about the -- excuse me, about the
21 files that are shared in the BitTorrent system, and can we --
22 for the time being, can we just use BitTorrent as sort of a
23 stand-in for peer-to-peer networks? If I've said something
24 that doesn't apply to the others, will you let me know?

25 A. I will try to if I pick up on it when we're discussing

1 it.

2 Q. Okay. So in the BitTorrent network, what happens is
3 somebody sends out a search looking for, say, a piece of
4 music, and they get back information about a file that's being
5 shared in the, in the, in the peer-to-peer network, right?

6 A. Typically, it's not exactly like that. Like, I might go
7 to the internet, and if I were to enter a search term that was
8 a particular artist and title, what I would normally be
9 directed to, because I would probably put the word "torrent"
10 in there just to narrow the searches a little bit, I would
11 normally be directed to a site like Pirate Bay or another site
12 where I could download that torrent. So I'm not getting back
13 the file necessarily but the torrent file.

14 Q. That's exactly the point I wanted to make. What you --

15 A. Okay.

16 Q. -- what you get back is basically the name of something
17 with a lot of other information about how you can access that
18 thing, whatever it might be, right?

19 A. You get -- well, it depends, it depends what you click on
20 when you get your search results. You either get the link to
21 the file itself or you get the place you can go to get the
22 file, and that file contains a lot of information, but you as
23 the user don't really need to know anything about what's in
24 that file because you don't have to do anything with it. The
25 software takes care of that.

1 Q. Yeah. I'm not asking the questions well.

2 All I really want to get to is initially, what you
3 get back from BitTorrent, if you go out and look for a piece
4 of music, all you're going to get back is the names and
5 identities and ability to access a file that has that name. I
6 mean, you don't actually know what's in the file until you go
7 out and download it and check it, right?

8 A. Okay. I think I see where we've missed communication
9 here. You're assuming that I'm searching, like, from within a
10 torrent client. So I'm running the BitTorrent software, and
11 I'm actually doing my search from within BitTorrent.

12 Is that correct or --

13 Q. We can start there. That's fine.

14 A. Okay. So what I get back is information that will allow
15 me to download the file if I open the torrent or if I load it
16 into my, my torrent client.

17 Q. But if you -- the only point I want to be clear on or
18 make sure that we're both clear on is that what you're getting
19 back -- you don't know what you're getting back signifies
20 until you actually get the file and listen to it or hash it or
21 do whatever you're going to do with it. So let me give you an
22 example.

23 A. Okay.

24 Q. If you -- if you're trying to find a recording of "Stand
25 By Your Man," Tammy Wynette --

1 A. Okay.

2 Q. -- and you find a torrent that says I've got "Stand"
3 -- or my torrent is named "Stand By Your Man," you don't know
4 whether that's Tammy Wynette or it's an anniversary video or
5 it's, I don't know, a sitcom. All you've got is the kind of
6 title to the file, and then you're going to have to get the
7 file downloaded and actually check it to see what that means.

8 Am I right about that?

9 A. It depends where you've looked, and the reason I say that
10 is, like, a lot of the torrent sites, there are actually user
11 reviews on particular torrents that are confirming they don't
12 have viruses or garbage or whatever. So it depends, but
13 generally speaking, I think what you're saying is correct,
14 that you're getting a file that although your software may be
15 verifying it as it's downloaded, you, the human, are not going
16 to know what it is until it's in a form you can open.

17 Q. It's a little surprise.

18 A. Huh?

19 Q. I said it's a little surprise, hopefully not.

20 A. Well, again, you know, because the authentication works
21 off the hash files and the BitTorrent software, for instance,
22 as each piece is downloading, it's individually verifying that
23 those pieces are accurate, it's not -- the system tends not to
24 be very surprising, based on my testing of BitTorrent anyway.

25 Q. It's verifying that they are accurately copies of

1 whatever --

2 A. The expected content is, yes.

3 Q. Let's say I thought about verifying because I think it's
4 important.

5 Now, you've told all of us several times that files
6 with identical hash values are identical, right?

7 A. For all practical purposes in a context like this, yes.

8 Q. And what the hash value tells you, if the two, if the two
9 hash values match one another, if you have two files with hash
10 values that match, that tells you those files are identical,
11 right?

12 A. Say that again, please?

13 Q. I said if you have two files with identical hash values,
14 that tells you the files are identical?

15 A. As I say, for all practical purposes, that is correct.

16 Q. Well, for the purpose -- I mean, you just spent about
17 20 minutes during your testimony saying that once you got the
18 hash value and if you matched the hash value, you've matched
19 the files. You stand by that testimony, right?

20 A. There is about a one in a trillion-trillion chance
21 mathematically as an abstract possibility that two files with
22 the same -- with different contents could generate the same
23 hash. That's 1 followed by 24 zeros.

24 And I'm aware that computationally using some very
25 sophisticated complex processors, there is one instance where

1 that mathematical proof has been proven. The articles I've
2 read about it said it cost about \$175,000 to rent the
3 computing processing to do that.

4 So -- and I'm not aware of it ever having happened
5 in the wild, which is why I say for all practical purposes and
6 certainly in a context like this, where I'm sure there are
7 many less than a trillion-trillion music files in the world, I
8 think that it's a reliable way of identifying the content of a
9 file.

10 Q. Ma'am, you told Mr. Zebrak they're identical. Why don't
11 you want to tell me they're identical?

12 A. They do have identical hashes.

13 Q. Okay. And they are identical files?

14 A. That is true, yes. With respect -- I mean, that is the
15 way the BitTorrent is, is designed to work. If you're
16 theorizing that --

17 Q. Is that a yes or a no, ma'am?

18 A. They would be identical files.

19 Q. Okay. Now, you said something a second ago that I
20 thought was interesting, and I want to make sure we're clear
21 on that. This downloading process for the BitTorrent files,
22 that's a, as you said, a piece-by-piece process. So you got a
23 piece from this guy and a piece from that computer and a piece
24 from her, and eventually you've got the whole file, right?

25 A. Correct.

1 Q. And you said, I think, in your answer that when you get
2 the -- when a peer on the peer-to-peer network is looking for
3 a file and is receiving it, it actually checks those pieces as
4 they come in. Did I hear that right?

5 A. That is correct. The BitTorrent software itself, the
6 BitTorrent client verifies the integrity of each piece it
7 receives using information that is in the info hash portion of
8 the torrent file.

9 Q. And what that verification consists of is rehashing the
10 piece basically, right?

11 A. Right. The system has stored in the torrent file the
12 expected hash, and as the piece is received, the software
13 calculates a hash and compares it to the expected hash for
14 that piece slot.

15 Q. Um-hum.

16 A. And then it will either reject it or if the piece is
17 confirmed, then it puts it in the appropriate slot, and it ups
18 the bit flag in the bit field to indicate that it has that
19 piece.

20 Q. And the, the torrent software and the torrent system
21 insists on that rehashing in order to preserve the integrity
22 of the files that are being transferred, right?

23 A. Again, I'd probably have to distinguish BitTorrent here
24 from the other three because BitTorrent does that specific
25 hashing against the information contained piece by piece. In

1 the time frame of interest for this case, the other three did
2 it based on the entirety of the file. So they would not be
3 able to -- let me think if that's correct. No, that's not
4 correct for all of them.

5 Depending on which client you were running for Ares,
6 Gnutella, and eDonkey in the time frame, most of the clients
7 for those three would only be able to hash on the entire file.
8 Now, that's changed since then, and it changed at various
9 points in time, but just to make that distinction that in the
10 period of time here, most of the other three clients were just
11 dealing in full files.

12 Q. So whether it's piece by piece or for the entire file,
13 all of the peer-to-peer protocols and software don't just rely
14 on the hash; they actually look at the content of the file
15 itself. Just like when you were describing sending a will to
16 your lawyer, you said: If I send a will to my lawyer and I
17 compute a hash on it, I tell him to recompute the hash to make
18 sure he's got the same thing.

19 Did I get that analogy?

20 A. That's close enough, yeah.

21 Q. Okay. And that's exactly what happens in the
22 peer-to-peer networks, that when the peer-to-peer network --
23 when a peer downloads a file, it doesn't just trust the hash,
24 it doesn't just trust the title of the file. It actually
25 takes the content of that file, runs the hash algorithm, and

1 generates a hash to make sure that the two match, right?

2 A. That's not exactly correct. Let's take the instance of
3 BitTorrent, for example. I would request a file, and so I'd
4 go out and find a torrent hash for the file I wanted, and I go
5 out and I download it.

6 Now, that download happens, the individual pieces
7 are verified, but there's no verification against the work
8 because the work is presumed to be the work identified by that
9 hash, and I would never know that were not true until I
10 actually opened the file and went, hey, it's my file. So --

11 Q. I'm sorry --

12 A. So the system itself is operating based on the hashes.
13 The identification through the file is on the hashes, and
14 while it's true that portions of the file might be checked
15 individually, the system as a whole does not then -- like in
16 BitTorrent, it doesn't then reconfirm and recalculate the
17 torrent hash, because in BitTorrent, the hash of the file is
18 the hash of the torrent.

19 Q. Ma'am, we're way past a response to my question. If we
20 could just focus, I think this will go a lot faster.

21 A. Okay. So the short answer is no, you didn't get it
22 right.

23 Q. Okay. Well, in the other -- that's helpful.

24 A. Well --

25 Q. In the other -- in BitTorrent, there's a rehash of each

1 piece of the file, right?

2 A. At the piece level, yes.

3 Q. Okay. And each piece of the file, the torrent file
4 supplies a hash for that piece, and then the piece is rehashed
5 to make sure that the two match, right?

6 A. When it's received, correct.

7 Q. Okay. And in the other systems, that's done on the file
8 level. That is to say, there's a hash for the file, and when
9 the file is received, it's rehashed to make sure that the
10 hashes match, right?

11 A. That's correct.

12 Q. Okay. So in other words, all -- none of these protocols
13 simply trust the fact that a hash has been provided. They
14 actually recalculate the hash to make sure they're getting
15 what they were promised either for the file or for the pieces?

16 A. Right. But again, the identification is no more than the
17 identification of the hash.

18 Q. Is that a yes or a no? I really -- it will be much --

19 A. It's not a yes-no question, Counsel. You're implying
20 that the content is what's being verified when, in fact, all
21 that's being verified is that the content matches the hash
22 expected. That does nothing more or less than the hash itself
23 would do other than to confirm transmission has not been
24 corrupted.

25 Q. But you just told me that the hash is identical with the

1 content. If you have a particular content, then you're going
2 to have a particular hash, and if the hashes are identical,
3 the content is identical except for the 1 in 32 trillion or
4 whatever it is.

5 A. Trillion-trillion.

6 Q. That's true, right?

7 A. The same content will always generate the same hash.

8 Q. Okay. And maybe we can just get this one out and then
9 we'll leave the topic: In all of these systems, even though
10 the peer is receiving the content and receiving the hash, it's
11 actually going to recalculate the hash to make sure that the
12 content is what it's supposed to be, the hash for the file or
13 the hash for the pieces?

14 A. It will recalculate the hash to make sure that the
15 material transmitted matches the expected hash. That is not
16 the same as the identity of content, which is, I think, why
17 we're mismatching here.

18 Q. Well, nobody is interested in whether or not the hashes
19 match. What they're trying to figure out is whether the
20 content matches; isn't that true? That's why they calculate
21 the hashes and compare them. That's why MarkMonitor captures
22 the hashes and compares them.

23 THE COURT: If you understand the question, you can
24 answer it.

25 THE WITNESS: Yeah, I feel like we're talking past

1 each other because the software doesn't verify content as in
2 what it is. These are protocols. They're designed for
3 efficient file transfer. They allow people to, to look things
4 up by hash, and they verify that what's received has a hash
5 that matches the expected hash, but that's not a verification
6 of content.

7 That's why MarkMonitor has to go through that
8 separate step of looking up and confirming via Audible Magic
9 that a particular hash has a particular content. The
10 verification of content is only verified with respect to
11 matching the hash. The identity of content requires something
12 like the MarkMonitor lookup.

13 I hope that clarifies because I feel like we're
14 talking past each other --

15 BY MR. BRODY:

16 Q. That's actually very helpful.

17 A. -- and I don't mean to be troubling to you, but --

18 Q. So simply matching the hash doesn't confirm to you that
19 you've got, you've got identical content?

20 A. Unless you know what the hash value matches to already,
21 yeah.

22 Q. Okay. That helps.

23 A. Good.

24 Q. So let's work through the vocabulary of the MarkMonitor
25 system briefly.

1 James, can we get slide 15 from
2 Ms. Frederiksen-Cross's deck up?

3 This is the verification module, right?

4 A. Correct.

5 Q. First I just wanted to make sure -- and this is partly
6 going back to our checklist -- when it says that there's a
7 download of full files, that's the step you reference there in
8 the middle.

9 A. Yes.

10 Q. Those are the files that are on that hard drive that we
11 were talking about before? Is that your understanding?

12 A. The files on the hard drive were produced, it's my
13 understanding, by MarkMonitor, and they are downloaded files,
14 yes.

15 Q. Right. They're the files that were captured during that
16 downloading step in the process?

17 A. Yeah. They are the files associated with the known
18 infringing hashes, the ones that have been verified. It's my
19 understanding that MarkMonitor captures new files whenever
20 they encounter them, but I think that all of them on that hard
21 disc, it's my understanding, are ones that have already been
22 through the verification process.

23 Q. And so that actually raises two questions. The first is
24 those are the files that are sent to Audible Magic, right, or
25 the files that are fingerprinted and the fingerprints are sent

1 to Audible Magic?

2 A. They are files who would have been fingerprinted at some
3 point in time and gone to Audible Magic or at least copies of
4 those files. I imagine they were just copied from the system
5 onto the hard drive.

6 Q. Okay. And then --

7 A. And if I can clarify, I'm just -- these are not the
8 reference files. They are the files that were unknown and
9 were identified just for the jury's benefit.

10 Q. Right. These are the -- these are the files that
11 MarkMonitor finds out on the internet, it downloads them onto
12 a hard drive at its system, it fingerprints them and sends
13 that fingerprint to Audible Magic for matching, right?

14 A. And gets back a confirmation, yes.

15 Q. Well, or a disconfirmation, depending.

16 A. Yeah. Thank you.

17 Q. Okay. And that's what's on the hard drive. The ones
18 that were downloaded, matched, those were all saved to the
19 hard drive, and that's what you inspected?

20 A. Yeah. A copy of those files are on the hard drive.

21 Q. Now, when Mark -- I'm sorry, when Audible Magic does its
22 matching of the fingerprints, you're aware that there are a
23 variety of levels of matching that Audible Magic can perform.
24 There's Level 1, Level 2, Level 3, I think, are the poetically
25 named choices.

1 A. Yes. I think there's probably a couple more levels even,
2 but yes, they're cleverly named 1, 2, 3, and 4.

3 Q. And in your report, you explained that MarkMonitor uses
4 Level 1, which means that it matches 20 seconds at the start
5 of the song.

6 A. It's actually 20 seconds near the start of the song.
7 It's not the very first 20 seconds. They offset a little bit
8 to get past white noise and stuff.

9 Q. Right. Okay. And that's the technique that MarkMonitor
10 uses and used in this case to match these files, right?

11 A. As I --

12 Q. I mean, sorry, Audible Magic used?

13 A. As I said in a later version of my report, you know, the
14 initial evidence I had received was that they used the first
15 20 seconds. It appears that in some instances, they also
16 relied on 20 seconds that came from later in the file, which I
17 believe would have been Level 3, if I remember the levels
18 correctly. There was some confusion about that initially.

19 Q. And how many files were matched at Level 1 and how many
20 were matched at Level 3?

21 A. I would have to look at my spreadsheet to see. I don't
22 remember the number as I sit here.

23 Q. Do you know which one predominated?

24 A. I don't recall as I sit here.

25 Q. There was one thing I wanted to -- can you put up

1 slide 17?

2 One thing I just want to be clear about. You've got
3 your fingerprint icon at two places on this slide. That's
4 not -- elsewhere in the SlideDeck, you used that icon to refer
5 to the SHA-1 hash or the hash value of the file. Here it's
6 actually referring to something called a digital fingerprint,
7 right?

8 A. Let me be clear. It's not -- when I refer to the file,
9 it's got the file rather than musical notes beside it, and
10 where it's got the musical notes, that's the digital
11 fingerprint using the Audible Magic-style fingerprinting. I
12 thought I was clear on that, but my apologies if there was any
13 confusion. If it shows the fingerprint and a file, that's the
14 hash value.

15 Q. Well, MarkMonitor doesn't send Audible Magic a SHA-1
16 hash. It sends Mark- -- Audible Magic a digital fingerprint,
17 right?

18 A. Right. That's why the little music icon there, yes.

19 Q. Okay. I just want to make sure -- I hadn't been clear on
20 that, and I appreciate your helping me with it.

21 Next -- and I'm sorry to sort of spend so long
22 clearing my throat here -- I want to talk about the collection
23 module and again make sure I'm understanding what you're
24 telling us. You said that you examined 175,000 records to
25 understand what was included in the, in the evidence packages

1 that were generated?

2 A. Right. There were more individual records, but 175,000
3 approximately case files.

4 Q. Right.

5 A. So a case file consists of, like, six individual files.

6 Q. Okay. There were, I think, 248,000 notices sent to Cox,
7 right?

8 A. That is correct. Approximately a quarter million.

9 Q. Why didn't you examine all 248,000 evidence packages?

10 A. There were some evidence packages that were not
11 available.

12 Q. Like 10 or 100 or something?

13 A. I believe the number was somewhere on the order of
14 97,000. It was, it was larger than ten.

15 Q. How many?

16 A. I believe it was 97,000 approximately.

17 Q. They weren't available? What happened to them?

18 A. They were principally older records that had -- that were
19 no longer in existence or couldn't be located.

20 Q. They were -- when you say "older," you mean -- the
21 notices were all sent between 2012 and 2014. Were they older
22 than that?

23 A. I don't remember the exact date. If you have a copy of
24 my report handy, I set it forth in my report what the cutoff
25 date was.

1 Q. It's, it's in your -- your report is in your binder.

2 A. I don't have a binder. I just have my résumé.

3 Q. I was so eager to talk to you about it, I forgot to share
4 this material.

5 A. Thank you. Would you like me to locate that number?

6 Q. I think it's in -- it's in paragraph 99 of your report.

7 A. Thank you.

8 Q. 94,474 evidence packages were missing from the period
9 before January 16, 2013.

10 A. I knew the date was in there. Thank you.

11 MR. ZEBRAK: Your Honor, I mean, if he's refreshing
12 her recollection, he ought not to be reading this into the
13 record.

14 THE COURT: I'll permit modest reading to focus the
15 witness on the area. She may -- you may focus on what you
16 would like her to testify -- where your questions are going,
17 okay? Not more than that, but let's --

18 MR. BRODY: That's all I meant.

19 THE COURT: Okay. All right. Go ahead.

20 MR. BRODY: She had asked for a passage, and I was
21 just trying to point it out to her.

22 BY MR. BRODY:

23 Q. Have we got it?

24 A. Yes, that's correct. The date was January 16, 2013, that
25 appeared to be the cutoff date, and I saw no records older

1 than that.

2 Q. Okay. So about a third of the records were missing?

3 A. I think that's approximately correct in the math, yes.

4 MR. BRODY: Can we put slide 20 up?

5 BY MR. BRODY:

6 Q. This was your slide summarizing the notification module,
7 right?

8 A. Yes, that's correct.

9 Q. And when you say "requirements," what that means is each
10 of those four boxes has to be checked before a notice goes
11 out?

12 A. That's correct, yes.

13 Q. Okay. And MarkMonitor's system is -- if it's operating
14 properly, if one of those boxes isn't checked, the notice
15 doesn't go out, right?

16 A. That was correct with respect to what I observed with the
17 exception of 247 records, I believe was the count, that were
18 less than 90 percent.

19 Q. Okay.

20 A. But the vast majority certainly fell within the
21 parameters that had been identified.

22 Q. Well, we'll come back to some of these checks.

23 A. Okay.

24 Q. Make sure all of the boxes were checked.

25 But again, I want to make sure we're understanding

1 what's in the boxes. So file verified as infringing, that
2 means that Audible Magic, Audible Magic has returned a match,
3 right?

4 A. Audible Magic has returned a hash against a particular
5 hash, and the peer client was detected to be providing that
6 hash, that specific hash.

7 Q. And Audible Magic determined that that file matched a
8 file in its reference database?

9 A. Audible Magic determined that the hash matched -- or that
10 the -- Audible Magic determined that a file that had been
11 passed matched a file in its reference database, and

12 MarkMonitor determined that the hash associated with that
13 file -- or added that information to the hash for a particular
14 file, because MarkMonitor does its detection based on hash.

15 Q. Audible Magic matches the file to something in its
16 reference database. MarkMonitor matches the hashes in the two
17 files?

18 A. Correct.

19 Q. Okay. Peer distributing 90 to 100 percent of the file,
20 what you're talking about there is what's known as the bit
21 field in a, in a torrent file, right?

22 A. Well, there's both bit field and size data. So just to
23 be clear, for the non-BitTorrent clients, it's based on the
24 size data reported. For the BitTorrent clients, there are a
25 few BitTorrent clients that also do not report bit field.

1 Instead, they send half pieces. And so for those, size was
2 also used.

3 Q. So what, what is being determined there is that 90 to 100
4 percent of what is supposed to be in the file is actually in
5 the file?

6 A. The client is reporting that it has 90 to 100 percent of
7 the file.

8 Q. Okay. And that's based on your report?

9 A. So it's based on the information that the client provides
10 to the MarkMonitor software.

11 Q. Right. But obviously, the file can't contain more than
12 it contains. That seems kind of --

13 A. I'm not sure what you're asking. Are you saying could
14 the size be larger than the noted size of the file?

15 Q. The file -- I'll make it a clearer question. What we're
16 interested in here are works, copyrighted works, so like a
17 song, right?

18 A. Um-hum.

19 Q. If somebody finds a file on the internet that has a part
20 of the song and then reports that it's got 100 percent of
21 whatever was found on the internet, what it's saying is that
22 I've got 100 percent of part of the song, not 100 percent of
23 the song?

24 A. I'm not following you exactly. Just I'm trying to apply
25 that to my understanding of BitTorrent.

1 Q. Then let me try a better question.

2 A. Okay.

3 Q. If what's being shared in a peer network is, say, just to
4 be arbitrary, half of a song, and the peers for whatever
5 reason are sharing half of a song, then when a peer reports
6 that it has 90 percent of the file, what it's saying is that
7 it has 95 percent of half of the song. In other words, it's
8 reporting on how much of what is being shared it possesses.
9 It's not reporting on how much of the work it possesses.

10 A. Let me make sure I understand your hypothetical here.
11 You're saying that for some reason, someone created a torrent
12 that had half a song in it, and then -- and so that torrent is
13 really only the first two minutes of the song, and they're
14 sharing that, and so a client that received that torrent might
15 think it had 100 percent of the torrent, but it would still
16 only have 50 percent of the song or 90 percent of the torrent.

17 Q. Right. That's exactly right.

18 A. In that hypothetical, what you say is true.

19 Q. Well, so, for example, if somebody downloaded a TV
20 commercial that had a little snip of a song in it, you know,
21 30 seconds or something, and it reports 90 percent of whatever
22 the torrent is that has that TV commercial, it may have 90
23 percent of the TV commercial, but it's only got 30 seconds of
24 the song, right?

25 A. Yes, but a song like that or a situation where you had a

1 half a song, it's not clear to me that that would match -- I
2 mean, it would go through all of the necessary matches and
3 still generate a notice, but I'm with you so far.

4 Q. Okay. Well, then we'll get it straightened out later.

5 You said you looked at the hard drive that contains
6 the works that were downloaded, right?

7 A. That's correct.

8 Q. Do you remember how many works on that hard drive were
9 from -- well, you -- I think you said there were four
10 networks -- there were recordings from four networks on that
11 hard drive, right? BitTorrent, Ares, Gnutella, and eDonkey.

12 A. The hard drive just lists the works based on their --
13 they're identified in folders by their hash values so that
14 they can be matched back to other things, and because some of
15 these networks use the same hash, I don't know that I can tell
16 for certainty whether the works came from a particular
17 network.

18 Q. Don't you remember that the, the spreadsheet that indexes
19 the hard drive, it actually lists the, the path, the computer
20 path, the way that you find files, sort of the address on the
21 hard drive for each of the files, and that structure is
22 organized by network? Do you remember that?

23 A. The spreadsheet you're talking about is actually not, as
24 I understand it, the index of the hard drive, if I'm thinking
25 of the same spreadsheet you're speaking of, but rather is the

1 one that has the Audible Magic lookup data that there's a
2 separate index that I --

3 Q. No, I'm talking about a different spreadsheet.

4 A. Okay. Could you show me a sample of it so I could see?

5 Q. Sure. Could you -- we can only do this electronically,
6 Your Honor.

7 THE COURT: Okay.

8 MR. BRODY: But that means the jury is going to see
9 it.

10 THE COURT: Is there any objection to looking at the
11 spreadsheet?

12 MR. OPPENHEIM: So this is the issue I raised with
13 you earlier, which I didn't yet have a stipulation on, but
14 they should all come in, Your Honor. That way we can avoid
15 this time delay with the jury.

16 THE COURT: Do you have any objection to this one?

17 MR. OPPENHEIM: I don't know which specific one he's
18 offering because he hasn't told me a PX number but probably
19 not.

20 MR. BRODY: I want to offer it for impeachment. I'm
21 not offering it for evidence.

22 THE COURT: Okay.

23 MR. BRODY: We'll figure out the evidentiary issues
24 later.

25 THE COURT: I'll allow you to have it identified,

1 and we'll go from there. Thank you, sir.

2 MR. BRODY: Okay. Could you put up the Defendants'
3 Exhibit 213?

4 BY MR. BRODY:

5 Q. This is the spreadsheet that's kind of an index to what's
6 on that hard drive, right?

7 A. I'm looking at it, Counsel. Let me just orient myself.

8 Q. I'm sorry, I can't hear you, ma'am.

9 A. I'm looking at it. Let me just orient myself. I think I
10 have seen this spreadsheet before.

11 Q. Okay. And the column in the middle, that's, that's the,
12 the list of path names for each of the files. That's the, the
13 list that shows you where to look on the file -- on the hard
14 drive to find each file, right?

15 A. Correct.

16 Q. Okay. We sorted that alphabetically.

17 A. Okay.

18 Q. And you can see the first four files are labeled "ARES,"
19 right?

20 A. I see that.

21 Q. Yeah. And that means those are the files that were
22 downloaded from Ares, right?

23 A. I didn't create this hard drive. That would be my
24 presumption looking at the folder names.

25 Q. Well, you, you actually looked at the hard drive itself.

1 You relied on it, you used it, you understand it, don't you?

2 A. I looked at the hard drive. I looked at it specifically
3 from the standpoint of matching content for various hashes
4 back to various notices and doing confirmation on the
5 evidence.

6 If I'm recalling this spreadsheet correctly, it
7 does -- or the hard drive actually -- I think that three of
8 the four peer-to-peer protocols are represented on the hard
9 drive, because as I said, since there's an overlap in the hash
10 values used in the other two, that is to say they both used
11 the SHA-1 hash calculation, that those files were not
12 downloaded twice. They were identified by the hash is my
13 understanding.

14 But I, I think this is a representation, at least as
15 far as I can tell from this segment of it, of the contents of
16 that hard drive.

17 Q. MarkMonitor downloaded recordings from all four networks,
18 right?

19 A. That is my understanding, yes.

20 Q. Okay. This hard drive has four recordings that were
21 downloaded from Ares, right?

22 A. That appears to be true based on the content here.

23 Q. Okay. Could --

24 A. But that doesn't mean that those were only --

25 Q. Thank you. I appreciate that.

1 A. -- Ares -- okay.

2 MR. ZEBRAK: Your Honor?

3 THE COURT: Yeah. If you can answer yes or no --

4 THE WITNESS: Okay.

5 THE COURT: Please. And if your counsel wants to
6 ask additional questions on redirect, he may do so at that
7 time. Thank you.

8 Go ahead.

9 THE WITNESS: Sure.

10 MR. BRODY: James, could you do a search in this
11 spreadsheet on the string "G-N-U"? So Ctrl F, G-N-U. G-N-U.
12 Okay.

13 Then ask it to find all of the files with that --
14 ask it to find -- I'm sorry, folks, I really apologize -- ask
15 it to find all of the files with that, those three letters on
16 it. Just hit "Find."

17 Okay. Can you go to that file?

18 BY MR. BRODY:

19 Q. Okay. So that file is actually in the BitTorrent
20 directory.

21 A. I see that.

22 Q. Okay. So when we look for Gnutella files on here, we
23 can't find any. Isn't that what that means?

24 A. My understanding of this file is it represents a copy for
25 the hashes that was downloaded from various sources. It is

1 not my understanding that this corresponds to every file
2 downloaded from each network, but, rather, represents each
3 hash that was provided in the notices.

4 Q. Does the file contain any -- does the directory, the
5 spreadsheet, the hard drive, do they contain any files
6 downloaded from the Gnutella network?

7 That's just a yes-or-no question.

8 A. They don't contain any in a GNU directory. I don't know
9 the specific answer to that because it doesn't matter with
10 respect to the hash value.

11 Q. Ma'am, I really would appreciate it if you could just
12 answer my question.

13 THE COURT: She's answered the question. Ask your
14 next question.

15 BY MR. BRODY:

16 Q. Now, I think you said before that about 40 percent of the
17 files were actually downloaded from Ares and Gnutella. I
18 think it's 38 percent.

19 A. Again, that number is in my report. So if you're
20 representing that's what I have in my report, it's correct.

21 Q. I think it is. It's 40 percent of the notices, I'm
22 sorry.

23 A. Yeah, I think it was like 30 to 40. I don't remember the
24 exact number.

25 Q. And that would be tens of thousands of files, right?

1 A. Based on my analysis of the evidence packages, that is
2 correct, yes.

3 Q. Okay.

4 A. At least of file copies. I don't know how many unique
5 files that would be, but of file copies.

6 Q. All right. Now, I want to make sure that we're -- I want
7 to test some of the things that you said about these hashes,
8 and the first thing I think you told me was there's a
9 one-to-one relationship between a hash and essentially a work,
10 that if you've got a hash of one song and you find that hash
11 again, you know that you're going to find the same song,
12 right?

13 A. Can I clarify? If --

14 Q. Is that a -- have I got it wrong?

15 A. It depends how you're identifying "song." If you're
16 saying a song with identical content, that would be true.

17 Q. Right.

18 A. But, for instance, if the Rolling Stones recorded the
19 same song three times, different recordings, it could have
20 three hashes.

21 Q. Ma'am, I appreciate the answer is no.

22 THE COURT: Let her finish the answer.

23 MR. BRODY: I'm sorry. Yes, sir.

24 THE WITNESS: There will be a correspondence between
25 a hash and an identical copy of that song, but in the

1 instance -- I don't know how you're using the identity of a
2 song. If you're saying a physical copy of a song recording,
3 the electronic copy, the answer is yes, but if you're
4 saying --

5 BY MR. BRODY:

6 Q. If you've got two files with the same hash, you've got
7 the same song, right?

8 A. Yes.

9 Q. Okay. Are you aware of any instances when Audible Magic
10 identified this -- concluded that the same hash identified two
11 different songs?

12 A. Counsel, I'm sorry, but your question doesn't make sense.
13 Audible Magic doesn't work with hashes. It works with
14 fingerprints.

15 Q. Well, are you aware of any instances when Audible Magic
16 received a file with a hash and said: I fingerprinted that
17 file and it matches song A, and then later it received a file
18 with the same hash and it said: I fingerprinted that file and
19 it's song B?

20 A. I'm thinking about it. Just give me a moment to
21 recollect.

22 I believe that I have seen instances in the
23 evidence -- I'm trying to remember if it was in this case or a
24 different case -- where Audible Magic returned, for instance,
25 the karaoke version of the song and another version when the

1 hash was -- or when the fingerprint was generated off of a
2 purely instrumental part of the song. So I think that I have
3 seen instances where the hash returned two identifications for
4 the same song from different albums based on the acoustic
5 properties that were in a particular fingerprint.

6 Q. So it is possible that Audible Magic could identify two
7 different songs even though the files for those songs have
8 identical hashes?

9 A. Again, I am not aware of a case where an identical --
10 where two different, two different copies of a song with
11 identical hashes were submitted to Audible Magic and got back
12 two different identifications. As I sit here, I am not aware
13 of that.

14 Q. Can we put up --

15 A. If you're saying the hash value -- we're talking about
16 the SHA-1 value, not the fingerprint, right?

17 Q. Can we put up for impeachment purposes Exhibit 141,
18 please? This is the spreadsheet with the Audible Magic data
19 in it.

20 A. 431 spreadsheet, yes, I recognize it.

21 MR. BRODY: Okay. James, can you search on the
22 SHA-1 hash 8C1EDC5EFE3FA552B56B6C97 F8DC1000ADDF1791?

23 BY MR. BRODY:

24 Q. Okay. And that -- the right-hand side here, we've got
25 the information that Audible Magic returned, right? It shows

1 the artist and the track for that hash as Lady
2 Antebellum, "Need You Now." The right column.

3 A. Can you scroll just a little bit farther right? I
4 remember that this particular spreadsheet has a, a kind of a
5 complex structure, and I'd just like to look all the way
6 across, if I could go left to right slowly.

7 MR. BRODY: Click on the arrow at the bottom right,
8 James. There's an album track to the right is the last thing
9 that's on here.

10 THE WITNESS: Okay. Now, could you go back left?
11 Because I'm seeing the torrent name and artist and track, and
12 I'd just like to go -- if I could just scroll all the way
13 across at once, I would appreciate it.

14 BY MR. BRODY:

15 Q. Okay. What are you looking for?

16 A. I'm waiting for A, B, C, D to come up on the screen, and
17 if you're able to keep the column headers, I would appreciate
18 it.

19 MR. BRODY: Why don't you just, okay, make that full
20 size. Go up to the top. Ctrl Home.

21 THE WITNESS: Or just go to View and say keep the
22 top row on this screen.

23 BY MR. BRODY:

24 Q. Yeah, but we've got to get to the top first.

25 A. Oh, got you.

1 MR. BRODY: Go to the spreadsheet, just click on any
2 cell on the spreadsheet, hit Ctrl Home. Okay?

3 THE WITNESS: Thank you.

4 BY MR. BRODY:

5 Q. Okay. Now, the columns L -- what is it? I think it's
6 L -- can we go back to that prior screen with the result of
7 the search? You had a screen up before that you sort of boxed
8 something in red.

9 MR. OPPENHEIM: Is that screen a demonstrative, or
10 is it the exhibit?

11 THE WITNESS: Oh, I see you're not to -- yeah.

12 MR. OPPENHEIM: So this is a demonstrative, not the
13 exhibit.

14 MR. BRODY: Yeah, this would be a demonstrative.
15 It's a, it's a screenshot of what happens when you do the
16 search on the spreadsheet.

17 MR. OPPENHEIM: Okay. If you're going to introduce
18 the demonstrative --

19 THE COURT: Okay. All right. All right, let's do
20 this: We've spent enough time digging through these exhibits.
21 Let's take our lunch break now. We'll take an hour. We'll
22 try to come back at maybe 5 minutes to two, and we'll resume
23 the testimony. We'll have this all worked out. Thank
24 you-all. You're excused.

25 NOTE: At this point, the jury leaves the courtroom;

1 whereupon, the case continues as follows:

2 JURY OUT

3 THE COURT: All right. You-all look at these
4 exhibits and -- or the underlying data sheets and tell me
5 where you're going to go when we get back. Collectively, you
6 can share with Ms. Frederiksen-Cross information that you
7 decide you want her to be able to focus on when you come back
8 if it will help her in looking at some of these spreadsheets.
9 Otherwise, you're on your lunch break.

10 And please don't discuss the testimony you've given
11 so far with anyone until we come back, all right?

12 MR. OPPENHEIM: Your Honor, could we get a copy of
13 the demonstrative that they were just using so we can take a
14 look at it? We've not seen it.

15 MR. BRODY: I can give you copies of what we're
16 going to be doing so you can see them all. I can give them.

17 THE COURT: Yeah.

18 MR. OPPENHEIM: In my experience, you can't just put
19 a demonstrative up and not tell the judge, the jury, or
20 opposing counsel you're doing that.

21 THE COURT: Yeah. Let's -- I assume you're sharing
22 demonstratives beforehand because you didn't object to hers,
23 going through hers, and so I'm sure -- I assume that you
24 had those --

25 MR. ZEBRAK: No, sir, that's not correct. We shared

1 ours with them this morning. This is a live demonstration.

2 THE COURT: That's what I said. I assume you shared
3 with them --

4 MR. ZEBRAK: Yes, sir.

5 THE COURT: Okay. I mumble also, so I apologize.

6 MR. ZEBRAK: No, that's my fault.

7 THE COURT: So let's do that. Before we resume,
8 let's -- you know, if you need to eat the ham sandwich out on
9 the courthouse steps, then let's get that done so that we can
10 come back at 5 minutes to two.

11 Mr. Buchanan, if you want to address that -- the
12 issue you raised this morning, we can do that right away when
13 we come back as well. Okay?

14 MR. OPPENHEIM: Thank you.

15 THE COURT: All right. We're in recess.

16 NOTE: At this point, the December 4, 2019, morning
17 portion of the case is concluded.

18 CERTIFICATE OF COURT REPORTERS
19

20 We certify that the foregoing is a true and
21 accurate transcription of our stenographic notes.

22 /s/ Norman B. Linnell
23 Norman B. Linnell, RPR, CM, VCE, FCRR

24 /s/ Anneliese J. Thomson
25 Anneliese J. Thomson, RDR, CRR

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF VIRGINIA
Alexandria Division

-----: :
: :
SONY MUSIC ENTERTAINMENT, et al., :
Plaintiffs, :
: :
-vs- : Case No. 1:18-cv-950
: :
COX COMMUNICATIONS, INC., et al., :
Defendants. :
: :
-----:

VOLUME 3 (P.M. Portion)

TRIAL TRANSCRIPT

December 4, 2019

Before: Liam O'Grady, USDC Judge

And a Jury

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COURT'S RULINGS/JURY INSTRUCTIONS

1 NOTE: The afternoon portion of the case on
2 December 4, 2019, begins in the absence of the jury as follows:
3 JURY OUT

4 THE COURT: All right. Mr. Buchanan, you want to
5 talk about pulse check, one another matter?

6 MR. BUCHANAN: I had pulse check. So, first, I was
7 going to do something that -- which I think there is no
8 objection to, which is maybe a first, but --

9 THE COURT: Okay. Okay.

14:01:27 10 MR. BUCHANAN: -- I was going to move in Exhibit --
11 Defense Exhibit 81A.

12 MR. OPPENHEIM: No objection.

13 THE COURT: All right. That's received.

14 MR. BUCHANAN: And you had something?

15 MR. OPPENHEIM: Yes, Your Honor. I would like to
16 make a very clear record of what just happened because it took
17 me a little while to figure it out.

18 So Mr. Brody asked to use for impeachment an exhibit
19 that Cox refused to stipulate to us that we could use. And we
14:02:00 20 had asked this morning -- Mr. Brody asked the Court and was
21 allowed to show that exhibit to the jury for what he claimed
22 was impeachment purposes.

23 Mr. Brody then asked his technical assistant to do a
24 search of that exhibit and look for something. The technical
25 assistant did not do the search. Instead, he called up a

1 demonstrative that had been prepared in advance and included
2 red boxes and highlighting, which is not in the exhibit.

3 At no time did anyone from Cox say that this was a
4 demonstrative. In fact, had they come to us in advance and
5 discussed it with us, we would have addressed it.

6 When Ms. Frederiksen-Cross asked to see other columns
7 in the spreadsheet because she thought a search had been done,
8 the technical assistant obviously could not go to the other
9 columns because it was a static demonstrative.

14:02:57 10 So they went back to the actual exhibit, but the
11 search had not been run. And so, then they couldn't provide
12 the information that Ms. Frederiksen-Cross needed to answer the
13 question.

14 This was not an error of failing to disclose a
15 demonstrative to us in advance. Mr. Brody specific -- he
16 didn't say to his technical assistant, call up that
17 demonstrative. He said, run a search. That was an
18 intentionally misleading game.

19 And I say that very seriously. I don't make these
14:03:30 20 kinds of allegations often. I try to give opposing counsel
21 great leeway. This crossed the line.

22 We've now looked at the other demonstratives they
23 want to use, apparently, with Ms. Frederiksen-Cross. They also
24 contain additional information on them, like highlighting and
25 boxes. And one of them appears to even contain some analysis

1 that was done that we've never seen before.

2 So we would ask for two things at this point, Your
3 Honor. We would ask, first, that these demonstratives not be
4 permitted to be used. You can't play these games and then
5 later get away with it.

6 And, secondly, that the jury be instructed to
7 disregard their prior view of them.

8 THE COURT: What are the -- what is the underlying
9 data in the spreadsheets? Is it not data that
10 Ms. Frederiksen-Cross relied on?

14:04:25

11 MR. OPPENHEIM: So, Your Honor --

12 MR. BRODY: Yes, Your Honor --

13 THE COURT: Stop, stop, I'll give you the
14 opportunity.

15 MR. OPPENHEIM: So all of the -- I'll answer the
16 question. The spreadsheets -- the demonstratives that they
17 intend to use rely on spreadsheets and other data, so, for
18 instance, hard drives and other things, all of which we intend
19 to use with MarkMonitor.

14:04:48

20 THE COURT: So you have no objection to that?

21 MR. OPPENHEIM: To the underlying data in exhibits,
22 absolutely not. And they should be admitted. And they should
23 have agreed this morning to stipulate to them.

24 Instead, they said no, let us talk about it, let us
25 talk about it. I have asked them three times. Let us talk

1 about it. And they should have an opportunity to talk about
2 it.

3 But what they really were trying to do was play a
4 game with it. And this, as you said, Your Honor, is not
5 supposed to be a game of gotcha. And that's exactly what they
6 did.

7 THE COURT: Okay. All right. Thank you.

8 Mr. Brody.

9 MR. BRODY: Thank you, Your Honor.

14:05:22 10 THE COURT: Well, you haven't heard anything I'm
11 going to say, but go ahead for "thank you."

12 MR. BRODY: What we did was run these searches last
13 night -- or actually yesterday, I guess, and captured
14 screenshots of the results of the search. We intended to offer
15 those as exhibits and to examine her on them. We will not use
16 them. There is no reason -- I mean, we'll simply use the live
17 spreadsheet.

18 But all we did was make a callout of the underlying
19 exhibit, which we do all the time. And I really -- there was
14:06:15 20 no deceit intended. It was just meant to expedite the process.
21 That, obviously -- that, obviously, was not successful.

22 So we'll just use the native spreadsheets, and that's
23 fine. And we will go back and do stuff that was done before in
24 the native spreadsheet so there will be no surprise, no harm.
25 It's going to come up the same way.

1 THE COURT: What manipulation did you do of the
2 spreadsheets, the information in the spreadsheets?

3 MR. BRODY: We did -- may I tender a copy of one of
4 them to Your Honor?

5 THE COURT: Sure.

6 MR. BRODY: So this is --

7 MR. OPPENHEIM: Why don't you give him the whole
8 packet?

9 MR. BRODY: He can have the whole packet, but that's
10 the one that the jury saw.
14:07:09

11 THE COURT: So the underlying data here is from one
12 of the spreadsheets that have been produced by MarkMonitor.
13 You've looked at them. You've looked at them.

14 MR. BRODY: Exactly.

15 THE COURT: The experts have all looked at them. And
16 you called out Lady Antebellum --

17 MR. BRODY: If you do the search -- yeah. If you do
18 the search that is shown in that box, that box comes up, and
19 the results that are shown there come up.

20 THE COURT: Okay.

21 MR. BRODY: And it goes to the row -- there is going
22 to be a little green box around what is, as is shown, around
23 what's highlighted in yellow. And we added yellow
24 highlighting, and we added a gray bar across just to call out
25 that row.

1 THE COURT: All right.

2 MR. BRODY: And, you know, there was nothing -- you
3 know, it will come up exactly the same way in a live
4 spreadsheet. And if it doesn't, then I'm going to look like an
5 idiot and I'm going to waste my time.

6 But that really was the intent, was simply to call
7 out the evidence and do this as efficiently as possible. But
8 we'll do it the other way.

9 THE COURT: All right. And --

14:08:16 10 MR. BRODY: Incidentally, on the stipulation issue,
11 we are still happy to do that. We did have an open issue that
12 we wanted to resolve, and I have got an answer for him, but we
13 haven't, obviously, had that discussion.

14 THE COURT: Well, what's going to happen with the
15 next spreadsheet that you want to put up? Is it going to be
16 objected to if it's in its native form? Or do we at least
17 have -- agree that the spreadsheets in native form are
18 admissible?

19 How could they not be admissible? If everybody has
14:08:47 20 looked at them and they are coming out of MarkMonitor's
21 documents, everybody is going to use them, what objection could
22 there be to -- and the experts are both relying on them?

23 MR. OPPENHEIM: Your Honor, I couldn't agree more,
24 they are admissible. He's not trying to admit them. He is
25 trying to use them for impeachment, show them to the jury, and

1 not allow us to use them. I don't know how he's going to keep
2 them out.

3 But, to me, it's like, why? Just agree to admit
4 them. And let's not play games here. Admit them --

5 THE COURT: So --

6 MR. OPPENHEIM: I have no idea if the searches are
7 going to come up like this or not because I haven't had a
8 chance to look.

9 THE COURT: Okay.

14:09:26 10 MR. OPPENHEIM: But based on what's happened today,
11 I'm not confident.

12 THE COURT: All right.

13 MR. BRODY: So far as the spreadsheets go, Your
14 Honor, we are willing to stipulate to the three spreadsheets.

15 We have an objection to the hard drive coming in, in
16 part based on her testimony just now. And there were two other
17 exhibits that Mr. Oppenheim asked me about that I think we can
18 do a stipulation on. But we just haven't --

19 THE COURT: So you're just going to use the three
14:09:52 20 spreadsheets that you agree can come in; is that right?

21 MR. BRODY: Exact -- I mean, the '431 is subject to
22 all of our objections. But, yes, that's all we'll use.

23 THE COURT: All right. Then we'll get --

24 MR. BRODY: Okay. Thank you.

25 THE COURT: We can -- we can move forward based on

1 the fact that the spreadsheets in their form as produced can
2 come in. You know, the biggest problem here is you all have
3 been fighting with each other for a year, and the level of
4 distrust is a product of just spending too much time as
5 advocates against each other, I think for the most part.

6 So it's a complete breakdown in communication because
7 you can use the native piece.

8 MR. BRODY: Yes.

9 THE COURT: You could have your exhibit -- you could
10 have your witness ask to highlight something on the exhibit and
11 use it if you had done it step by step and plaintiffs
12 understood where all of this was coming from, at least that
13 would be my rulings. Of course, you can use and highlight the
14 information that you want.

15 So what we're talking about is a -- is a real failure
16 to communicate, and also to identify what's a demonstrative and
17 what isn't. And that needs to be done. And that needs to be
18 done before you get up and take the podium and start with your
19 examinations. Okay? On both sides. Okay?

14:11:29 20 MR. BRODY: I couldn't agree more, Your Honor. And
21 I -- well, I'm going to move ahead.

22 THE COURT: Okay. All right. Mr. Buchanan, pulse
23 checks. I mean, we've dealt with this. I indicated I wasn't
24 going to listen to the discovery abuse side of it. But what in
25 addition did you want to address?

1 MR. BUCHANAN: Again, Your Honor, in your order you
2 said that you weren't going to exclude them at this time. You
3 would consider it at trial.

4 THE COURT: Yes, because I wanted to see what
5 foundation was laid and whether they were credible, admissible,
6 reliable type of documents. And I didn't have enough
7 information just based on Lehr having -- and McGarty, I guess,
8 having relied on them. So --

9 MR. BUCHANAN: So in terms of expert testimony,
10 14:12:21 neither expert mentioned pulse checks in their expert reports.
11 They mentioned them during their testimony.

12 THE COURT: Depositions?

13 MR. BUCHANAN: Mr. Bahun, I believe, testified about
14 them. And he's the individual that I have called him as a
15 sales representative, not the technical guy, which is
16 Mr. Paszkowski. But whatever he is, he is going to testify
17 soon. I think he's going to come in and say, hey, this is not
18 the limit of the infringement on the Cox network. You know, we
19 would do these pulse checks, where we would go out and search
20 14:12:57 these peer-to-peer networks, and we would try to identify if
21 there was activity at a certain level that would indicate there
22 is potential infringement, and we could look at the IP
23 addresses and see and link those up with further investigation
24 to a particular --

25 THE COURT: And he's a fact witness, not an expert

1 witness?

2 MR. BUCHANAN: He is a fact witness.

3 THE COURT: Okay.

4 MR. BUCHANAN: And so, he testified, as I recall, I
5 have some excerpts about these. And what he said is, it was
6 sort of a very low level activity that they would pick up, not
7 enough on any industry standard to send a notice. It is
8 something below that. So we have no documentation of it.

9 There is no expert that analyzed pulse checks that
10 testified about what they mean. It's just this individual
11 salesperson, you know, that -- and I think that's what he was
12 using. I'm not degrading the guy. That's what he said. The
13 question was: What is your position? He goes: I'm a sales
14 guy. He's marketing.

15 I think they used this to reach out and say, look, we
16 have got some activity. Do you want us to do some more
17 investigation? I am not sure.

18 But -- so it doesn't relate to the works in suit. It
19 doesn't relate to the plaintiffs. It relates to Cox,
20 allegedly. It is not limited to the time period in question.
21 It is not limited to copyrighted works. It doesn't involve
22 those. It involves music and film and television.

23 And so, it's all sorts of things that are not even
24 part of the case. And no documentation was produced.

25 Now, they will say, well, we didn't ask MarkMonitor

1 for it. We asked them for a lot. And they said --

2 THE COURT: Yeah, don't go there.

3 MR. BUCHANAN: Okay. All right. We had a fight over
4 that. But the idea is, if we said give us information beyond
5 the works in suit, there was no way we were going to get that
6 from MarkMonitor.

7 THE COURT: Okay. All right. Thank you.

8 Mr. Gould.

9 MR. GOULD: Thank you, Your Honor. I want to start
14:14:51 10 with your order on this, which was ECF No. 590. On page 3 you
11 answered it this way: Pulse checks are not excluded at this
12 time. The Court will consider any further objections at trial.

13 What we just heard here was not a further objection.
14 It was a recycled --

15 THE COURT: Yeah. I want to know how you're going to
16 get it in. Which is why I said what I did very inartfully, as
17 I do far too often, I am sure. But how is a fact witness going
18 to identify -- and is he just going to talk generally about
19 what it is? Is he qualified to do that?

14:15:30 20 I know you disagree with Mr. Buchanan about the
21 characterization of his role in the business. So tell me that.

22 MR. GOULD: So let's start there. Cox likes to
23 characterize him as a sales guy. It is part of his job. We
24 talked about this a little bit. You are going to hear from him
25 after Ms. Frederiksen-Cross. Mr. Bahun has material roles at

1 this company --

2 THE COURT: Yeah, I remember.

3 MR. GOULD: -- that includes sales.

4 THE COURT: I remember your --

5 MR. GOULD: He does things like FBI and DoJ training
6 for piracy efforts to protect and avoid distribution of child
7 pornography. This is not just a guy who's going door to door,
8 looking --

9 THE COURT: But, see, he's not an expert, though,
10 right? Are you going to try to qualify him as an expert?
14:16:15

11 MR. GOULD: No. He's going to testify about what
12 MarkMonitor actually did from a factual matter.

13 THE COURT: Okay.

14 MR. GOULD: MarkMonitor performed analysis by
15 observing peer activity, observing in the swarms, and observed
16 materially greater levels of peer-to-peer infringement,
17 infringing indicative behavior by Cox subscribers for years on
18 a daily basis, monumentally higher than what we've seen here.

19 THE COURT: But how is he going to be -- what is he
14:16:49 20 going to rely on?

21 MR. GOULD: Personal knowledge.

22 THE COURT: Having done what? I mean, reviewed what?

23 MR. GOULD: Having been a part of those programs and
24 reviewed and understood that --

25 MR. OPPENHEIM: I can offer a little more detail,

1 Your Honor, since I'm going to present the witness, if you'd
2 like.

3 THE COURT: Yes, sir.

4 MR. OPPENHEIM: One of the documents you're going to
5 see is an attachment to an RIAA/MarkMonitor contract. And that
6 attachment shows the anticipated volume of notices for each
7 ISP.

8 And one of the things that's going to jump out, Your
9 Honor, is you're going to see that Cox has a woefully low
14:17:31 10 number compared to other ISPs of relative size.

11 And that -- when you ask Mr. Bahun, well, why is
12 that? Because of CAS. Well, how did you decide on -- how did
13 the other numbers get arrived at? Well, we do pulse checks,
14 and we provide that data to our customers and have a
15 discussion.

16 And he will describe what the pulse checks showed for
17 Cox and what -- and how it compared to the others. And how
18 that Cox number is so low compared to everything else. It is
19 all based on his personal knowledge, his personal experience,
14:18:08 20 and what he does day in/day out.

21 So the -- and you can keep -- Cox will keep saying,
22 he's a sales guy. Yes, he's technically in the sales
23 department, that's correct. But he's the guy who Homeland
24 Security calls in to help with money laundering cases. This
25 guy has great, great experience in the field.

1 THE COURT: Okay. Mr. Buchanan.

2 MR. BUCHANAN: So if -- what is interesting is that,
3 at least the first time I heard this, and I didn't take the
4 MarkMonitor deposition or Mr. Bahun's, was it was tossed out to
5 me during the depositions of Mr. McGarty and Lehr when I was
6 asking about the infringement, he goes, oh, but you don't know
7 there's these pulse checks out there. And I asked them about
8 it. And they didn't really quite understand it because I think
9 they have just been fed the information.

14:19:04 10 But I think you heard something interesting here. He
11 said, he's a sales guy, they admitted that. He goes out to the
12 FBI and Home -- he talks about piracy and things like that.
13 Sort of like Marks and the IRA -- the RIAA guy. He's out there
14 doing marketing, promoting. That's fine.

15 Then they said he has this data, okay, and that
16 there's data that he relies on. He's not doing the analysis.
17 He's not doing the searches. He's not sending the notices.
18 RIAA is doing that.

19 So he -- where is the data? We don't have all this
14:19:33 20 data. So in other words, for -- to be fair, if they were
21 really going to use this, it was so important, one, you know, I
22 don't want to get into MarkMonitor, but they would have said,
23 look, MarkMonitor, give us this pulse check stuff and we'll
24 produce that because we want our experts to rely on it, and we
25 want to rely on it, and we want to put a witness on for it, you

1 know.

2 And it's sort of being sandbagged here, is that, you
3 know, if we're fighting this third party and they won't give it
4 to us, and they say it's really important and valuable, and
5 they had it, why didn't they, meaning the plaintiffs, give it
6 to us in discovery? Because we certainly had discovery
7 requests to them that would've covered this.

8 THE COURT: All right. Okay. I'm going to allow the
9 witness to testify. And let's see where it goes. And I'm
10 mindful of your objections. I'm -- I will be looking closely
11 to make sure that he's not giving expert testimony. And when
12 you're dealing with this area, it's not a black and white line.

13 But your exception is noted.

14 MR. BUCHANAN: Thank you, Your Honor.

15 THE COURT: And you -- if you believe we've gotten to
16 a stage where you should make further objections, I'll
17 certainly hear those as well.

18 MR. BUCHANAN: Okay. Can we just make sure that a
19 foundation is laid about his job, and then what he does, and
14:20:54 20 this data, and whether he actually analyzes it himself, and --

21 THE COURT: Yeah. I expect that we'll go through
22 what he does in his work there, and why he is familiar with
23 pulse checks, and how he is familiar with them, and what he
24 uses them for, and how they relate to the evidence in this
25 document that Mr. Oppenheim just referred to.

1 MR. BUCHANAN: Okay. Thank you, Your Honor.

2 THE COURT: All right. Thank you.

3 All right. Are we ready for the jury then?

4 All right. Joe, let's get our jury, please.

5 Oh, and we can get our witness now, if you would, as
6 well.

7 NOTE: At this point the jury returns to the
8 courtroom; whereupon the case continues as follows:

9 JURY IN

14:22:11 10 THE COURT: All right. Please have a seat.

11 All right. I hope you found that coffee that you
12 were looking for. Sorry for the delay. We were out here
13 working. If you couldn't hear us singing and yelling, that --
14 I'm sorry to delay our afternoon session.

15 All right. Let's get our witness back and we'll
16 continue. Here we are.

17 All right. Good afternoon. I hope you had a good
18 lunch.

19 And please go ahead.

14:23:05 20 MR. BRODY: Thank you, Judge.

21 BARBARA FREDERIKSEN-CROSS, called by counsel for the
22 plaintiff's, having been previously sworn, continues to testify
23 and state as follows:

24 CROSS-EXAMINATION

25 BY MR. BRODY: (Continuing)

1 Q. All right. Let's try it again.

2 A. Yes.

3 Q. And if I can't get it right this time, we'll just move on
4 to something else.

5 Could you please bring up Exhibit -- Defendant's
6 Exhibit 141, please.

7 Okay. This is the Audible Magic spreadsheet.

8 Now -- oh, good. You've copied and pasted SHA-1 hash
9 HC1EDC5EFE3FA552B56B6C97F8DC1000ADDF1791; is that -- do you see
10 that?

14:23:54

11 A. I see that he has typed that in. I didn't --

12 Q. To the best of --

13 A. I didn't follow every character. But I see that he's
14 typed it in, yes.

15 Q. Okay. Can you hit the "find next," or "search," or
16 whatever it is? Okay. And it is behind -- there it is. Can
17 you scroll down a little bit? There we go.

18 Now, can you go to the right on the screen? Just --
19 yeah, there we go.

14:24:27

20 Okay. Now, the three columns on the right, there's:
21 Audible Magic info ID.

22 And you understand that's a code that MarkMonitor
23 enters to identify each return that it gets from Audible Magic,
24 right?

25 A. That's my understanding, yes.

1 Q. Yeah. And then: Artist and track.

2 That's information that Audible Magic sends to
3 MarkMonitor and, not surprisingly, it identifies the artist and
4 the track associated with that hash, right?

5 A. That's correct.

6 Q. Okay. Can we bring up the search box again?

7 And the artist and track that are identified here are
8 Lady Antebellum and "Need You Now." Okay.

9 Can we do another search on that hash? Yeah, so go
10 control F and search -- I want to find the next item in the
11 spreadsheet that has the same hash.

12 All right. Well, go to -- oh, I'm sorry, go to
13 Gnutella. There's a tab down there that says: Gnutella.

14 There you go. Okay. Now do the same search. Okay.
15 And can we scroll over to the right again? Oh, I can -- you
16 can see it here.

17 The artist and track that come up in Gnutella is Tia
18 Ray, that's the artist, and the work is "Do You?"

19 Do you see that?

14:26:10 20 A. I see that, counsel.

21 Q. And what happened was we searched on one SHA-1 hash and we
22 got two different works, right?

23 A. If --

24 Q. Two different artists, two different tracks?

25 A. Or at least we got two different identifications.

1 Q. Yes.

2 A. I would want to listen to the tracks to see if they were
3 actually the same and one was mislabeled or --

4 Q. Well, something is wrong. It shouldn't work that way,
5 right?

6 A. There does appear to be some error here, yes, counsel.

7 Q. Okay. Let's try another one. And 141 -- by the way, do
8 you know how many times something like that happened? How many
9 times Audible Magic returned different tracks for the same
10 SHA-1 hash?

14:27:08

11 A. No. I would want to check if that SHA-1 in the Gnutella
12 is the same SHA-1. There's a SHA-132 and a SHA-1. If it was
13 the same, which SHA-1 it was because it's not labeled clearly.

14 Q. Yeah, we searched on the same SHA-1 hash, ma'am.

15 THE COURT: Let her finish -- let her finish her
16 answer before you ask the next question.

17 MR. BRODY: I apologize.

18 THE COURT: All right.

19 THE WITNESS: Well, I was just saying, there are two
20 different ways of calculating SHA-1. One is SHA-132 and one is
21 SHA-1. And I would want to see if both of those represented
22 the same type of SHA-1 calculation. But this is very
23 interesting.

14:27:30

24 BY MR. BRODY: (Continuing)

25 Q. Yeah, we searched on the same SHA-1 hash, the one that you

1 told us would change if you even deleted a space in the
2 program. You saw we did that twice and we got two different
3 songs, right?

4 A. Right. That's why I'm saying I would like to see if they
5 were the same SHA-1 calculation. If the same formula is used,
6 it should generate the same value for the same.

7 Q. So they're --

8 A. But I am aware that there are two different types of SHA-1
9 calculation. And that one of the peers uses a SHA-132. And as
10 I sit here, I do not recall if that's Gnutella. It's not
11 BitTorrent.

12 Q. Can we go back -- do we have Gnutella up? Can you go back
13 to Gnutella, please? And can you do the search again?

14 Okay. Can we move that search box away.

15 Okay. The search came up in the SHA-1 hash column.
16 Do you see that?

17 A. I see that, yes. And seeing this is helpful.

18 Q. Right next to the hash column is the SHA-1 hash base 32
19 column, right?

14:28:55 20 A. I see that, yes.

21 Q. So we search on the same SHA-1 hash in both spreadsheets
22 and we got two different works?

23 A. I see that. That's quite surprising to me.

24 Q. Okay. And my question to you was, do you know how often
25 that happens in these spreadsheets?

1 A. I'm surprised that it happens at all, counsel.

2 Q. So the answer is, you don't know how often it happens?

3 A. I don't know. I would need to run a little calculation
4 and write a little program to figure that out.

5 Q. Okay. Okay. So let's go back to BitTorrent.

6 And I want to search on this hash,

7 F041CF7EEFD3DB7CB5D0F5F0FE71E7ECEC4025EA.

8 Oh, I'm sorry. We need to be in eDonkey for this
9 one.

14:30:04 10 And that work is Lady Gaga, "Poker Face," right?

11 A. I see that, yes.

12 Q. Okay. Oh, here it is.

13 Can you go to the hard drive spreadsheet? I think
14 that's Exhibit 213.

15 MR. OPPENHEIM: Is that now admitted?

16 MR. BRODY: Yes, I mean, we're fine with admitting
17 it.

18 THE COURT: The hard drive?

19 MR. BRODY: Yes.

14:30:46 20 THE COURT: Is that what you just said? All right.
21 It's admitted.

22 MR. BRODY: We're fine with admitting the hard drive,
23 the Audible Magic, and the notice spreadsheets, the Audible
24 Magic, subject to our objections.

25 THE COURT: All right. Yeah, and just for the

1 record --

2 MR. BRODY: The hard drive spreadsheet. We have an
3 objection to the hard drive.

4 THE COURT: Well, I'm sorry. I thought you just said
5 you were agreeing to admit the hard drive.

6 MR. BRODY: So -- I'm sorry.

7 THE COURT: Is it a different hard drive?

8 MR. BRODY: There's a hard drive spreadsheet and
9 there's the hard drive itself. The spreadsheet, we will agree,
14:31:15 10 is an accurate index of what's on the hard drive.

11 We have an objection to admitting the hard drive
12 because we believe it's an incomplete exhibit. But we haven't
13 gotten there yet.

14 THE COURT: All right. Can you give us the actual
15 exhibit numbers so that we can identify them?

16 MR. BRODY: Sure. So what I was saying was that we
17 were agreeable to the admission of Defendant's Exhibit 141 -- I
18 am sorry, I don't have the plaintiffs' numbers down here --
19 Defendant's Exhibit 141, which is the Audible Magic
14:31:44 20 spreadsheet.

21 THE COURT: All right.

22 MR. BRODY: Defendant's Exhibit 213, which is what I
23 will call the hard drive spreadsheet.

24 And Exhibit 161, which is -- Defendant's Exhibit's
25 161, which is what I will call the notice spreadsheet.

1 THE COURT: All right. Those are received.

2 All right. Now, go ahead.

3 MR. BRODY: So Exhibit 213, can you search on that
4 SHA-1. Can you scroll that up a little bit? Okay.

5 BY MR. BRODY: (Continuing)

6 Q. Now, in the Audible Magic spreadsheet, that came up as
7 Lady Gaga, "Poker Face." Do you recall that?

8 A. I didn't memorize the Bates number, but if you're
9 representing that to me, then I think that's fine.

14:32:47 10 Q. Yeah, I think that's what we saw just about two minutes
11 ago. And the hard drive spreadsheet, it's not Lady Gaga, it's
12 Taylor Swift, "Love Story," right?

13 A. I see that that's what's here, counsel.

14 Q. And it's got the same SHA-1 hash that we searched on in
15 the other spreadsheet?

16 A. I also see that.

17 Q. Okay. Let's go back to the Audible Magic spreadsheet.
18 And that is Exhibit 141, I'm sorry. And let's search on this
19 hash. 9FC9FC7FA194A -- oh, by the way, before we do that, do

14:33:40 20 you know how many times in the Audible Magic materials the
21 SHA-1 hash gave you one answer on the Audible Magic spreadsheet
22 and a different answer on the hard drive?

23 A. I do recall seeing that in the hard drive where the song
24 was mislabeled, there were one or two occasions where, you
25 know, were matching there not against the Audible Magic

1 returned data, but the name of the song as a person named it
2 when it was put in the torrent. Which means some human created
3 torrent with that name. And I did identify one or two songs on
4 the hard drive that were misnamed.

5 Q. The question, was, ma'am, do you know how often that
6 happened?

7 A. I don't -- as I am sitting here, I have any recollection
8 of how often it happened, no.

9 Q. Thank you.

14:34:25 10 A. I just remember identifying that issue with the naming of
11 the songs.

12 Q. Ms. Frederiksen-Cross, I always enjoy my time with you,
13 but regrettably I often spend more of it than I would like to.
14 So if you could just stick with yes or no, I would really
15 appreciate it.

16 MR. ZEBRAK: Your Honor, this is highly
17 inappropriate. She has been trying to answer his questions,
18 and he keeps interrupting her, and now is scolding her.

19 THE COURT: Both of you stop commenting on the
14:34:46 20 evidence and framing it the way you want to frame it.

21 As we spoke earlier today, if you can answer a
22 question yes or no, please try. And if you can't answer it as
23 asked, say, I can't answer it that way.

24 THE WITNESS: Okay.

25 THE COURT: And then your counsel on redirect will

1 amplify your earlier answer if he believes that it needs
2 further explanation. All right?

3 THE WITNESS: Yes.

4 THE COURT: Thank you.

5 All right, go ahead.

6 MR. BRODY: Thank you, Judge.

7 BY MR. BRODY: (Continuing)

8 Q. All right. Let's go back to this third hash.

9 9FC9FC7FA194A7D98E5C76E2AE9A4EA30E703167. Okay.

14:35:45 10 And what that gets us in the Audible Magic
11 spreadsheet is Tammy Wynette, "Stand by Your Man."

12 That's what was returned by Audible Magic, right?

13 A. Yes, that's in the Audible Magic artist and track.

14 Q. Okay. Can you go over to the column that is labeled --
15 not so fast: Info Hash. Click that. Can you copy that into
16 the search box?

17 And can we go to the notice spreadsheet, that is
18 Exhibit 161.

19 So we have got Tammy Wynette, "Stand by Your Man,"
14:36:49 20 right?

21 A. As being the first file on that group, yes.

22 Q. Well, it's not just the first file, it is a SHA-1 -- a
23 SHA-1 hash identifies a song, a work, it doesn't identify the
24 entire torrent, right?

25 A. I think this was the info hash, counsel, which --

1 Q. Let's go back and do it again.

2 A. Okay. I am sorry --

3 Q. We did the SHA-1 hash and that got us Tammy Wynette, do
4 you remember?

5 A. I do remember you used the SHA-1 hash to locate Tammy
6 Wynette, and then --

7 Q. Used the SHA-1 hash to locate --

8 THE COURT: Hold on, hold on. You both can't talk at
9 one time.

14:37:22 10 MR. BRODY: I apologize, Your Honor.

11 THE COURT: Well, it just keeps happening over and
12 over again. So let's -- you're in control of questioning.
13 Either object to her answering or let her answer.

14 MR. BRODY: Okay.

15 THE COURT: Let her finish.

16 MR. BRODY: Okay.

17 BY MR. BRODY: (Continuing)

18 Q. We searched on the SHA-1 hash in the Audible Magic
19 spreadsheet and we found Tammy Wynette, right?

14:37:44 20 A. That's my recollection, yes.

21 Q. Okay. Now, we're copying the info hash, and we are going
22 to use that to search in another spreadsheet. Okay?

23 A. Okay.

24 Q. All right. Let's go to the other spreadsheet.
25 Exhibit 161, the notice spreadsheet.

1 Can we search on that hash? And you've done that.

2 And the file name on that spreadsheet -- I am

3 sorry -- the title and artist on that spreadsheet is "Lovely

4 Day" by Bill Withers, right? It's columns --

5 A. Yes.

6 Q. -- F and G?

7 A. Yeah, I see that that was the -- that that's what's in F

8 and G.

9 Q. Okay. So that means that the work that was identified in

14:38:38 10 that notice was Bill Withers, not Tammy Wynette, and they are

11 different people?

12 A. The problem I am having with this, counsel, is that we

13 have switched hashes and we have gone from the identification

14 of a specific song to the identification of a torrent. And

15 what I would -- and we see that these are both for the same

16 torrent.

17 Q. Fair enough.

18 THE COURT: Okay.

19 Q. Can you search on that hash again?

14:39:15 20 Do the search -- James, do the search on the --

21 MR. OPPENHEIM: Your Honor, can we approach?

22 THE COURT: Yes, sir.

23 NOTE: A sidebar discussion is had between the Court

24 and counsel out of the hearing of the jury as follows:

25 AT SIDEBAR

1 THE COURT: Yes, sir.

2 MR. OPPENHEIM: I just noticed that the last
3 spreadsheet that defense counsel brought up, which he said was
4 the defendants' exhibit and was the native file, I looked at
5 the bottom and there is a tab on it which says: 48-hour test.

6 MR. BRODY: Well, I am not going to go to that one.

7 MR. OPPENHEIM: That is not part of the exhibit, and
8 it is in front of the jury. It's --

9 THE COURT: Is the data that she is looking at the
10 data that is from the exhibit?
14:40:26

11 MR. OPPENHEIM: I am certainly -- I'm sorry. Now I
12 am interrupting you.

13 THE COURT: Okay. That's a question for you.

14 MR. BRODY: Yes. It's the exhibit. What was
15 apparently put up there is -- in a working copy I added a tab
16 where I did some work of my own.

17 But what is on the screen is the exhibit. I will put
18 up any copy you want. If you want me to put up a plaintiffs'
19 exhibit, I will put it up. It is the same thing.

14:40:52 20 MR. OPPENHEIM: I shouldn't have to play policeman on
21 exhibits being correct.

22 THE COURT: I understand. Are you about done with
23 this?

24 MR. BRODY: This is the last one and then we are done
25 with the spreadsheets.

1 THE COURT: Okay. Then I will allow it. And your
2 exception is noted.

3 And let's not do this moving forward. Okay?

4 MR. BRODY: Okay.

5 NOTE: The sidebar discussion is concluded; whereupon
6 the case continues before the jury as follows:

7 BEFORE THE JURY

8 THE COURT: Okay. Go ahead.

9 BY MR. BRODY: (Continuing)

14:41:42 10 Q. Okay. Can you do the search again?

11 A. Excuse me, counsel, which hash is this, the info hash or
12 the --

13 Q. This is the info hash.

14 A. Okay.

15 Q. Can you click on "find all"? Can you expand that all the
16 way?

17 Okay. Those are all the info hashes, all the notices
18 with that info hash. Do you see? Do you see they are all Bill
19 Withers?

14:42:08 20 A. I don't see where you are looking at that you see that
21 they are all Bill Withers. That may not be visible on this
22 search.

23 Q. I see. Okay. Shrink the box and just click "find next."
24 No, no, no. Where it says -- there is a box that says "find
25 next." There you go. Bill Withers. Click again.

1 A. I see that.

2 Q. Bill Withers. Click again. Bill Withers. Click again.
3 Bill Withers. Click again.

4 There are 39 of them. I will represent to you that
5 they are all Bill Withers.

6 A. Okay. I will accept your representation.

7 Q. Now, the way the Audible Magic -- I'm sorry -- the
8 MarkMonitor system is built -- well, strike that.

9 Let me ask you about some structural issues with the
14:43:28 10 MarkMonitor system. Can we put up -- can we put up slide 14
11 from Ms. Frederiksen-Cross' direct.

12 Now, this is your three modules. There is the
13 verification module, and the detection module, and
14 notification. I want to focus for a second on the first two.

15 A. Okay.

16 Q. So verification module, that's where MarkMonitor goes out
17 onto the Internet, a peer-to-peer network, finds the song,
18 sends it off to Audible Magic for verification, right?

19 A. Correct. And then gets back a response and stores it
14:45:04 20 away.

21 Q. And then the detection module, that's where the song is
22 sent to -- the information about the song is sent to
23 MarkMonitor's, what they call their collection agents. And
24 they go out on the peer-to-peer networks and they try to find
25 people who are sharing that song, right?

1 A. The detection module searches for a particular hash, yes.

2 Q. Okay. Well, what I really wanted to focus on is where it
3 is searching. It is going out to the peers, to the people in
4 the peer-to-peer network, right?

5 A. Right, with the info hash or hash of the song.

6 Q. And if it hits on a Cox subscriber, that's the point in
7 the process where a Cox subscriber gets involved or caught up
8 in the search?

9 A. Sure.

14:45:52 10 Q. Yeah. Now, the detection module and the verification
11 module operate in parallel, right?

12 A. They are separate systems, yes. So I don't know what you
13 mean by in parallel. But they operate separately, they are not
14 synchronous tasks.

15 Q. What I meant by parallel -- and maybe this is what you
16 meant -- was that the collection module to go out -- that goes
17 out and looks for Cox subscribers and other people who are
18 supposed to be infringers, it doesn't wait for Audible Magic to
19 report back on the song? It -- it goes out and searches the
14:46:40 20 peers before the Audible Magic verification is completed,
21 right?

22 A. That's correct. It's just not eligible for notice until
23 it's been verified.

24 Q. Well, that's certainly the theory. But let's take it one
25 step at a time.

1 Isn't it the case that the detection module starts
2 searching peer-to-peer computers for the presence of a file
3 before MarkMonitor knows whether Audible Magic has made the
4 match?

5 A. It starts searching for a file. At that point in time
6 MarkMonitor may or may not know depending upon when in the
7 relative time periods the confirmation from Audible Magic has
8 come back. So it may know or it may not at that point in time.

9 Q. So it -- if it may not know, then that means that it
10 doesn't depend on Audible Magic actually concluding that
11 search?

12 A. For the detection module, that's correct.

13 Q. Okay. Now, you're aware that doing it that way results in
14 the collection of thousands of files that are later determined
15 not to be infringing works?

16 A. I think that could be true. I mean, they might be
17 somebody else's infringing works, or they might not be
18 infringing works at all.

19 Q. And you understand, don't you, that that increases the
14:48:20 20 chances that notices will be generated for non-infringing
21 works?

22 A. That is not my understanding of the operation of the
23 system, counsel.

24 Q. Okay. Can we bring up Defendant's Exhibit 130, please.
25 And can we go to HL -- can you go to the end of the exhibit?

1 Go up a page, up one more page. And can you blow up paragraph
2 2?

3 Now, this is the Stroz Friedberg report that we heard
4 about from a previous witness, and this is one of the things
5 that you reviewed, right?

6 A. That is correct.

7 Q. And Stroz Friedberg was hired by RIAA to sort of audit the
8 MarkMonitor system to see whether it was doing what it was
9 supposed to do? Do you understand that generally, right?

14:49:34 10 A. Yes, I do.

11 Q. And they made a number of recommendations at the end of
12 their report, and this is one of the recommendations, right?

13 A. I believe this is in the Recommendation section, yes.

14 Q. And what they said was: In the current model, MarkMonitor
15 deploys all instances of in-scope work to its collection
16 agents, regardless of whether or not that file has been
17 verified as an infringing work.

18 Do you see that?

19 A. I see that.

14:50:02 20 Q. And that's what we were just discussing. That means that
21 the collection agents go out to the peer computers, including
22 the Cox subscribers, regardless of whether Audible Magic has
23 returned a match on a particular file?

24 A. That is my understanding as well.

25 Q. And then they say: This is an efficient approach as the

1 agents can start searching for and identifying content
2 immediately. However, it also results in the collection of
3 thousands of files that are later determined not to be
4 infringing works.

5 And that's what we just agreed was the case, right?

6 A. I would agree that that could happen if they're not
7 somebody else's infringing works, sure.

8 Q. Then they say that: Though there are subsequent steps in
9 place to ensure notices are only generated on verified
10 infringing works, collection by the agents of these
11 non-infringing works introduces inefficiency into the process
12 and increases the chances that notices will be generated for
13 non-infringing works.

14 Do you see that?

15 A. I see that.

16 Q. And you understand that was Stroz Friedberg's finding?

17 A. I understand that that was their finding, yes.

18 Q. Okay. Let's talk about Audible Magic matching.

19 Now, you told me earlier that MarkMonitor did Type 1
14:51:27 20 and Type 3 matching, and you weren't quite sure of the mix?

21 A. I'm not quite sure of the mix, that's correct.

22 Q. Okay. Now, you understand -- and what they did was they
23 took a 20-second clip --

24 MR. ZEBRAK: Your Honor, this is a misstatement of
25 the evidence. He said MarkMonitor as --

1 MR. BRODY: Oh, I apologize.

2 THE COURT: Okay.

3 MR. ZEBRAK: Excuse me, sir.

4 THE COURT: All right. Thank you for that. Rephrase
5 your question.

6 MR. BRODY: Yes, yes. Absolutely.

7 BY MR. BRODY: (Continuing)

8 Q. Well, Audible Magic did Type 1 and Type 3 matching in
9 response to the MarkMonitor inquiries sent on behalf of RIAA,
10 right?
14:52:06

11 A. That is my understanding, yes.

12 Q. Okay. And you -- I think you told us that the matching
13 that Audible Magic did was to use a 20-second clip that starts
14 a few seconds past the beginning of the recording, right?

15 A. I believe that's correct, yes.

16 Q. Okay.

17 A. About eight seconds, if I recall the precise number.

18 Q. I'm sorry. I didn't --

19 A. I think it's about eight seconds past the beginning of the
20 clip, if I recall.
14:52:39

21 Q. Okay. Now, I've got a couple of questions about that.
22 First, do you recall that Audible Magic actually thought that
23 you should be doing a 60-second clip in order to do Level 1
24 matching?

25 A. I do not recall that, no.

1 Q. I'm sorry. Actually, this is very exciting for me.
2 People usually tell me I speak too softly, but I'm having
3 trouble hearing you.

4 THE COURT: She said she does not recall that.

5 MR. BRODY: Okay. Thank you.

6 THE WITNESS: Yeah, I don't recall that. If there's
7 something you could show me to refresh my recollection.

8 MR. BRODY: Okay. Could we bring up Defendant's
9 Exhibit 8, please.

10 BY MR. BRODY: (Continuing)

11 Q. Let me -- before I do that, one of the things that you
12 reviewed in doing your work was the Audible Magic programming
13 guide. It's a technical document that they sent to their
14 customers explaining how to use their system.

15 Do you recall that generally?

16 A. I believe I did see that document, yes.

17 Q. Okay. Can I have leave to --

18 THE COURT: Do you have that in hard copy?

19 MR. BRODY: Do I have it in hard copy? Yeah.

14:53:55 20 THE COURT: Yeah, why don't you show it to her and
21 ask her whether she --

22 BY MR. BRODY: (Continuing)

23 Q. It should be in your --

24 A. Is it in my binder?

25 Q. Yes.

1 A. I've got it. I've got it, yeah. Thank you.

2 Q. If you go to page 5 of the document, it's Audible Magic
3 0000011.

4 MR. OPPENHEIM: Do we have a copy of this?

5 MR. BRODY: Yes, you do. It's right there, DX 8.

6 MR. OPPENHEIM: Thank you.

7 BY MR. BRODY: (Continuing)

8 Q. Have you got it?

9 A. Oh, I do see it, yes.

14:55:01 10 Q. The second paragraph there --

11 A. Yeah, I see it.

12 Q. File Identification?

13 A. Yes, I see it.

14 Q. Okay. And in --

15 THE COURT: Is this a document that you looked at
16 during your review of discovery matters?

17 THE WITNESS: I looked at an electronic version,
18 rather than paper, but it -- I believe it's the same document.

19 THE COURT: All right. Go ahead.

14:55:19 20 BY MR. BRODY: (Continuing)

21 Q. For the Type 1 matching, the basic lookup mode, it says:
22 In this mode, an application will typically fingerprint the
23 first 60 seconds of a media file for lookup.

24 Do you see that?

25 A. Yes. And then it goes on to say it selects a segment

1 within that 60 seconds to use for the lookup.

2 Q. All right. But 60 seconds, not 20 seconds, right?

3 A. Right. That's correct.

4 Q. Okay. Now, the other thing about this type of matching is
5 it's not actually properly used for -- or the types of songs
6 that it should be used for, types of media it should be used
7 for, are not peer-to-peer files?

8 A. Respectfully, I disagree with that, counsel. If you read
9 the -- what it's appropriate for, it includes, for instance,
10 files from a disk ripped from CD, which would often be the case
11 in peer-to-peer file sharing.

12 Q. Well, let's read the whole passage: For file ID
13 identification to work, that's Level 1, is critical that the
14 beginning of the unknown media sample correspond within a few
15 seconds to the beginning of the original song or video.

16 And that's critical because it has to be -- you have
17 to be within the first eight seconds, like you said.

18 A. I don't remember if it was exactly eight, but that's my
19 recollection as I sit here, yes.

14:56:48 20 Q. Whatever it is, eight, ten, five. Then it says: The type
21 of -- the type file ID is appropriate for -- the file ID is
22 appropriate for applications that need to identify audio from a
23 CD.

24 That's not a peer-to-peer file, right?

25 A. A physical CD would not be.

1 Q. DVD, that's not a peer-to-peer file?

2 A. The physical DVD copy would not be. That's correct.

3 Q. A disk ripped from CD, a DVD, or a DRM-protected file.

4 A. And that could --

5 Q. And that's not we're talking about?

6 A. No, that could be because a --

7 Q. A disk?

8 THE COURT: Let her finish.

9 A. A disk file, I read that to be a file that was on disk
14:57:29 10 that had been ripped from one of those. And ripping is just a
11 copy program that allows you to copy contents from those media
12 to disk.

13 Q. Okay. Or an Internet stream that signals the start of
14 each new play. And that's not what we're talking about either?

15 A. I don't believe we're talking about Internet streams here.

16 Q. Okay. And then Level 3, which you said some of the --
17 some of the matching used, that is appropriate -- it's over on
18 the next page -- for applications that only have an arbitrary
19 piece of the work, such as user-generated content, Web sites,
14:58:17 20 or customers that have just a portion of audio to identify.

21 Do you see that passage?

22 A. I see that passage.

23 Q. Okay. I want to talk about the download question.

24 When a -- in the detection module or the collection
25 module, when the MarkMonitor agent connects to the peer

1 computer --

2 If we could get slide 18 up. Okay. There we go.

3 When MarkMonitor connects to the peer computer, it
4 collects information off of the computer about the peer-to-peer
5 file that the peer has, right?

6 A. Right.

7 Q. The Cox subscriber?

8 A. Correct.

9 Q. And one thing you say here is that: Hash match (no need
15:00:09 10 to redownload.)

11 And what you meant by that was that MarkMonitor looks
12 to see what the hash is on the Cox subscriber's computer, it
13 downloads the hash, but it does not download any of the file,
14 right? Any of the payload, if you will, the content, the
15 music?

16 A. There were a few exceptions in the evidence I saw where
17 the connection had not been broken in time and some small
18 portion of the song was downloaded.

19 But generally the design of this system for this
15:00:49 20 particular scanning was not to download the files, that's
21 correct. To rely on the hash.

22 Q. And, in fact, both you and our expert, Mr. --

23 Dr. Feamster, you guys looked at all 175,000 evidence packages,
24 and I think there are 143 or something, 144, where there's a
25 little bit of data downloaded.

1 But all the rest of them have nothing downloaded from
2 the peer computer, no content?

3 A. That's correct.

4 Q. And I think you even told me that the MarkMonitor software
5 is written so that it assures that the MarkMonitor computer
6 will break off the connection with the peer before any content
7 is downloaded?

8 A. Well, it breaks off the connection very quickly, which
9 typically would result in that, yes.

15:01:39 10 Q. Well, but the -- I mean, it -- the -- it's designed to
11 avoid downloading content?

12 A. With the particular variant of the software that I was
13 looking at that was what was used in this case, yes, it
14 attempts to break connection very quickly.

15 Q. So if anybody said -- if I were to say to you that I
16 believe that MarkMonitor actually downloaded pieces of the
17 files on the peer computers, you would tell me I was wrong,
18 wouldn't you?

19 A. In what context?

15:02:16 20 Q. This context.

21 A. So specifically in the software as it was configured to
22 run for the RIAA in this litigation?

23 Q. Exactly.

24 A. And can you repeat back your question again? I just want
25 to make sure I was --

1 Q. Sure. If I told you or anybody told you that MarkMonitor
2 was downloading the content of the files from the peer
3 computers, not just the hash and not just, you know, the other
4 data associated with the file, but the file itself, if somebody
5 said, MarkMonitor was doing that, downloading pieces of the
6 file, you would tell them they were wrong, right?

7 A. With the exception of that little tiny fraction where the
8 connection is not broken in time that we just spoke of, they
9 would be mistaken, yes.

15:03:08 10 Q. Well, it's a little stronger than that. You looked at
11 170-odd thousand files, and none of them had any downloaded
12 content, or 143 or '4 had some, right?

13 A. There was no downloaded content present in the evidence
14 packages that I examined. I don't recall if I checked every
15 single record to see if there had been any and they simply
16 weren't a part of the package.

17 But my recollection is that aside from 143 files,
18 there was no downloaded content.

19 Q. Could we have -- one of the things you looked at in
15:03:46 20 preparing your report was a document that MarkMonitor prepared
21 for RIAA to explain how they were going to perform this work,
22 and they did it in -- I think it was April of 2012. Do you
23 recall that?

24 A. I recall looking at several documents they prepared for
25 RIAA. I'd be happy to take a look at the one you're talking

1 about.

2 Q. Okay. Do you want to look at tab 17 in your binder, DX
3 17.

4 A. A particular page, counsel?

5 Q. Well, let's, first of all, get ourselves oriented with
6 respect to the document.

7 This is something called P2P enforcement process, and
8 it says it's prepared by the Motion Picture Association of --
9 I'm sorry, prepared for the Motion Picture Association of
10 America and the Recording Industry Association of America.
11 It's dated April 11 of 2012.

12 You got that.

13 A. Yes, I see that.

14 Q. Okay. And I think you described this in your initial
15 report as a MarkMonitor document prepared for the RIAA and the
16 MPAA that describes MarkMonitor's peer-to-peer enforcement
17 process.

18 Does that sound like a fair characterization?

19 A. That would have been how I described it based on the
20 title, yeah.

21 Q. If you look at -- if you look at MM 198, it is page 10 of
22 the document, there is a section headed: P2P Data Collection
23 Agents.

24 A. I see that, counsel.

25 Q. And there is some text. And it describes the general

1 approach of the collection agent.

2 And step 3 of the general approach is: The agent
3 tries to download a piece of data from the users while
4 connected with them.

5 Do you see that passage?

6 A. Let me just read a little bit of the surrounding text to
7 get a context here, if I may.

8 Okay. I see that, counsel.

9 Q. Then it describes downloading the file from the swarm and
10 sending it to Audible Magic.

11 And then the second to the last paragraph on the page
12 reads: The agent will request only a single piece of data of
13 each individual user --

14 MR. OPPENHEIM: Can I -- just a moment. This is not
15 in evidence. We are doing again what I think we did before. I
16 thought we were trying to avoid this.

17 THE COURT: Do you recognize this document as one of
18 the ones you reviewed or --

19 THE WITNESS: I believe I have seen this document or
20 a similar document.

21 THE COURT: Direct her to the area you want her to
22 look at and ask a question instead of reading everything into
23 the record. All right? Please.

24 Thank you.

25 BY MR. BRODY: (Continuing)

1 Q. The last two paragraphs indicate that MarkMonitor was
2 going to download a piece of data and verify the hash, right?

3 A. I see that here.

4 Q. Okay. And it says the same thing -- I'm sorry. It says
5 the same thing on page MM 205, page 17, the very end. It says
6 that the data proceeds -- sorry -- the agent proceeds to
7 download data from the user.

8 THE COURT: Is there a question in there? Does it
9 say that? Is that your question?

15:09:16 10 MR. BRODY: Yes, that was my question.

11 THE COURT: Okay. If that's what it says.

12 A. I see that on the page, counsel.

13 BY MR. BRODY: (Continuing)

14 Q. So MarkMonitor told the RIAA that they would be
15 downloading data from the users, right?

16 MR. OPPENHEIM: How would she know? No foundation.

17 MR. BRODY: Your Honor --

18 THE COURT: Stop, stop, stop. If you can answer the
19 question, answer the question.

15:09:39 20 The question is, is this a MarkMonitor document and
21 does it say what Mr. Brody says it says? That's all.

22 THE WITNESS: Yes. It was prepared for the Motion
23 Picture Association of America and RIAA. And I was just trying
24 to determine if I could tell which of those two parties this
25 section was directed to, if it was specific to one or the

1 other.

2 THE COURT: All right. Move on.

3 BY MR. BRODY: (Continuing)

4 Q. You looked at the Stroz Friedberg audit, right? We talked
5 about that already.

6 A. Yes, sir.

7 Q. And you look at the Harbor Labs audit as well, right?

8 A. Yes, I did.

9 Q. And each of those was at a subsequent point in time after
10 this peer-to-peer piracy network, one was about six months
11 later and one was about a year-and-a-half later.

12 A. I don't recall the specific dates, but if that's your
13 representation.

14 Q. Okay. Do you recall that in both of those audits
15 MarkMonitor told Stroz Friedberg and Harbor Labs that it would
16 be downloading data from the peer computers?

17 A. I don't recall that specifically. But if you want to show
18 it to me, I am happy to take a look at it.

19 THE COURT: We are not going back through that again.
15:10:59 20 You have already gone through that testimony. We are not going
21 back through that again. If you can't --

22 MR. BRODY: My point is made and I will stop.

23 THE COURT: Okay.

24 BY MR. BRODY: (Continuing)

25 Q. I want to ask you a few questions about CATS, and then we

1 are done.

2 First of all, can we have slide 23 up.

3 When this slide was up, you talked about what
4 happened to blacklisted notices. Do you recall that generally?

5 A. I do.

6 Q. Okay. Do you understand that the notices from the RIAA,
7 from the plaintiffs here, were not blacklisted, right?

8 A. Not in the specific configuration files that I saw for the
9 version of code I looked at, that's correct.

15:12:10 10 Q. Okay. And what those files indicated was that the
11 plaintiffs' notices went through that top layer of processing,
12 reads e-mail, look up subscriber information, and so forth,
13 right?

14 A. Correct. So long as -- yeah, at this part of the
15 processing, that is correct.

16 MR. BRODY: That's all I have got. Thank you.

17 THE COURT: All right. Thank you.

18 Redirect.

19 MR. ZEBRAK: Yes, Your Honor.

15:12:53 20 REDIRECT EXAMINATION

21 BY MR. ZEBRAK:

22 Q. I would just like to clarify a few things,
23 Ms. Frederiksen-Cross.

24 Let's start with the document that we were just
25 looking at. If we could call of DX 17, please.

1 Oh, excuse me. I thought he had introduced that.

2 You have in front of you a document in that binder
3 labeled DX 17?

4 A. I do.

5 Q. Do you know the context in which that document was
6 prepared?

7 A. My understanding is that that document was prepared both
8 with respect to presentations being made to the Motion Picture
9 Association of America and to the RIAA for discussion of an
10 approach to doing their monitoring.

15:13:34

11 Q. Are you familiar with something called the Copyright Alert
12 System?

13 A. I am.

14 Q. Do you have any understanding about whether this document
15 bears any relation to the Copyright Alert System?

16 A. I was trying to find that because my recollection is that
17 it did.

18 Q. Well, let me -- you can put the document aside for a
19 moment. Let me ask you a question.

15:13:57

20 Counsel pointed you to a number of different portions
21 of this document and asked some questions about whether
22 MarkMonitor had indicated to the RIAA that it would download
23 content from these peers prior to sending notices.

24 Do you recall that?

25 A. I recall we looked at those sections, yes.

1 Q. Yes. And do you recall that this document is prepared --
2 well, first of all, what does MPAA refer to?

3 A. The Motion Picture Association of America.

4 Q. And do you know whether the portions of the document that
5 counsel asked you to acknowledge in terms of what they say in
6 that document relate to work done for the RIAA as opposed to
7 the MPAA?

8 A. My understanding was that it was done for the MPAA as
9 opposed to the RIAA.

15:14:51 10 Q. Do you have a view about whether the portions of the
11 document counsel asked you to just speak to and read aloud bear
12 any relationship to the actual process done by MarkMonitor in
13 this case that you've concluded to be reliable and accurate?

14 A. It is my understanding that those portions were not
15 related to this case, but rather to a different engagement.

16 Q. Okay. Let's turn your attention to another document you
17 have in the binder in front of you, DX 0008, I believe that's
18 the Audible Magic guide that you indicated you looked at during
19 the course of your review.

15:15:44 20 A. I see that.

21 Q. Is that correct?

22 A. Yes.

23 Q. Okay. Would you turn your attention, please, to page 10
24 of that document.

25 And I believe counsel published this to the jury, in

1 which case we would ask for permission to do the same.

2 THE COURT: Go ahead.

3 MR. ZEBRAK: And if you could drill down under -- on
4 page 4 of this document, Mr. Duval.

5 BY MR. ZEBRAK: (Continuing)

6 Q. Now, I am going to direct you to a portion of the document
7 counsel didn't show you. So it's -- if you are looking at the
8 binder in front of you, it's on page 4.

9 A. Physical page 4, not Bates No. 4.

15:16:29 10 THE COURT: Is this paragraph 2 or a different
11 document?

12 MR. ZEBRAK: Sorry, Your Honor, there are several
13 different numbering schemes on the document. My apologies.

14 THE COURT: All right.

15 BY MR. ZEBRAK: (Continuing)

16 Q. So again, this isn't --

17 A. Okay.

18 Q. You didn't have the opportunity to look at this a moment
19 ago. But when you reviewed this document, did you -- did you
15:16:52 20 look at this portion here under: Accuracy?

21 A. I did, yes.

22 Q. And could you read in --

23 THE COURT: Let me hold you up for just one second.

24 Is this in evidence? Or do you want to move it in evidence?

25 Or what --

1 MR. ZEBRAK: Counsel just asked her questions about
2 it, and I would like to --

3 THE COURT: That's fine, but if it's going up on the
4 screen, and the jury is looking at it all, why don't you move
5 it in.

6 MR. ZEBRAK: We have no objections to that, Your
7 Honor.

8 THE COURT: All right. Any objection?

9 MR. BRODY: No, Your Honor.

10 15:17:25 THE COURT: All right. Then it's received.

11 Then go ahead put it up on the screen. Thank you.

12 MR. ZEBRAK: Thank you, Your Honor. I appreciate it.

13 BY MR. ZEBRAK: (Continuing)

14 Q. If we could turn your attention back to that page,
15 Ms. Frederiksen-Cross. Could you read what it says about a
16 third of the way down the page where it begins: Audible Magic
17 services are all -- yeah, there you go.

18 A. Yes: Audible Magic services are all tuned to have
19 essentially zero false positives. We believe that application
20 15:17:58 developers have enough to do without having to second-guess
21 identification. We test our services in-house to provide a
22 false positive rate of less than one in a million, and
23 practically speaking our customers report that our services
24 have zero false positives in audio identification.

25 Q. Are you familiar what a false -- with what a false

1 positive is in the context of the Audible Magic service?

2 A. Yes, I am.

3 Q. And would you explain to the jury what that is.

4 A. If there were misidentification, it could be either a
5 false positive or a false negative. A false positive would be
6 saying that a song was something that it wasn't. A false
7 negative would be saying, we couldn't identify the song even if
8 there was some matching fingerprint.

9 Q. And here it indicates that -- so what does it mean --
15:19:01 10 would you have an understanding what it means that Audible
11 Magic says that it's tuned to have essentially zero false
12 positives?

13 A. Yes. That means that the system is tuned to favor
14 accuracy over just the raw number of identifications. So if
15 there is any question of identification, they will return a
16 false, that is to say, I couldn't identify it, rather than a
17 true, that I was able to identify it.

18 So it is optimized for accuracy.

19 Q. And is -- and so, a false negative is a no match; is that
15:19:38 20 correct?

21 A. Right, a no match.

22 Q. Okay. And so, are false negatives an issue at all with
23 respect to the matches that Audible Magic did for the files
24 that were the subject of the notices to Cox?

25 A. No, because if the file couldn't be matched, then it

1 wouldn't be eligible to generate a notice. So it might mean
2 that fewer notices went out, but it wouldn't mean that an
3 inaccurate notice went out.

4 Q. Okay. Now I'm going to ask you about a few different
5 songs that -- so, first of all, do you recall that counsel
6 asked you to follow him when he took you through different tabs
7 and rows in a big spreadsheet?

8 A. Yes.

9 Q. Okay. So that spreadsheet -- well, first of all, do --
10 well, there were multiple spreadsheets, but do you recall the
11 one where he was asking about specific songs? And we'll start
12 with Lady Antebellum, "I Need You Now."

13 A. Yes, I recall that.

14 Q. Okay. Well, first of all, I'd like to -- if you could --
15 I'd like to ask you -- well, I'd like to publish for the jury
16 the list of sound recordings at issue in this case, which is PX
17 1.

18 And then I'd like to ask the witness whether she is
19 aware of whether Lady Antebellum, "Need You Now," appears on
15:20:55 20 this list of works in the case?

21 And, sir, if you could do a search when you have a
22 moment within PX 1, which is the record company sound
23 recordings at issue in the case.

24 MR. DUVAL: And what am I searching?

25 MR. ZEBRAK: Search "Need You Now."

1 BY MR. ZEBRAK: (Continuing)

2 Q. Well -- okay. So do you recall counsel asking you about
3 the song "Need You Now" by Lady Antebellum, right?

4 A. Correct.

5 Q. And we've just seen here that it doesn't appear on the
6 list of sound recordings in the case, correct?

7 A. That's correct.

8 Q. Okay. Now, what I'd like to do is call up in front of the
9 jury PX 2, which is the list of copyrighted musical
10 compositions in the case, and we're going to do a similar
11 search for "Need You Now."

12 A. Okay.

13 Q. Now, do you see the search return?

14 A. I do. It was not found.

15 Q. Okay. So as a result of this, is -- I think it's -- is it
16 correct that counsel was asking you about a song or a recording
17 that's not in this case?

18 A. That's correct.

19 Q. Okay. Now, we're going to turn to the second song that
20 Cox's counsel is asking you about. And it's called "Stand By
21 Your Man," by Tammy Wynette.

22 And, sir, Mr. Duval, if you could call up PX 1, the
23 list of sound recordings. And put it up -- a find search for
24 "Stand By Your Man."

25 And what does the search reflect?

1 A. The search results reflect that that song is not found in
2 the list.

3 Q. Okay. And, Mr. Duval, if you could do the same thing in
4 PX 2 in terms of a key word search for "Stand By Your Man."

5 And, Ms. Frederiksen-Cross, does "Stand By Your Man"
6 appear on PX 2?

7 A. No, that file was not found in the list of compositions.

8 Q. Is that another example of counsel asking you about a song
9 that's not in this case?

15:23:37 10 A. That's correct.

11 Q. Okay. Thank you. Do you recall counsel asking you about
12 the song "Love Story," by Taylor Swift?

13 A. I think so, yeah.

14 Q. Okay. Well, we're going to --

15 A. They kind of ran together after awhile there.

16 Q. We can skip that one if you don't recall.

17 Finally, do you recall counsel asking you about the
18 song "Lovely Day," by Bill Withers?

19 A. Yes.

15:24:10 20 Q. He happens to be one of my favorite artists.

21 So, Mr. Duval, could you pull up PX 1, please. And
22 search "Lovely Day."

23 Ms. Frederiksen-Cross, what's the result of searching
24 for the song "Lovely Day" on PX 1?

25 A. That song is not amongst the copyrighted sound recordings

1 in this case.

2 Q. Okay. Mr. Duval, could you search for "Lovely Day" on PX
3 2.

4 Okay. Ms. Frederiksen-Cross, what's the result of a
5 search for the song "Lovely Day" on PX 2?

6 A. That song is not amongst the copyrighted compositions
7 either.

8 Q. Okay. So, again, this represents instances where counsel
9 was asking you about data concerning songs and recordings not
10 in the case; is that correct?

11 A. That is correct.

12 Q. Okay. Thank you. Do you recall counsel asking you
13 several questions about the Stroz and Harbor Lab reports?

14 A. Yes.

15 Q. And did the Stroz reports point to even a single
16 inaccuracy in the MarkMonitor system?

17 A. No. They found the system to be accurate.

18 Q. Do you recall whether the Harbor Lab report pointed to
19 even a single inaccuracy in the MarkMonitor system?

15:26:02 20 A. No. Harbor Labs also confirmed that the system was
21 accurate.

22 Q. And in the course of your -- oh, I'm sorry, how many hours
23 did you say you worked on this matter?

24 A. Approximately 400.

25 Q. Okay. In the course of your 400 hours in this case thus

1 far, have you run across a single instance where you have been
2 able to point to a MarkMonitor notice going out for a file
3 that, in fact, was non-infringing?

4 A. No, I was not able to find any such evidence.

5 Q. Do you recall counsel asking you questions about
6 MarkMonitor submitting file hashes to Audible Magic?

7 A. I recall those questions, and I tried to kind of clean
8 that up because it was confusing. But I do recall the
9 questions.

15:26:50 10 Q. So what is it that Audible -- that MarkMonitor submits to
11 Audible Magic for a lookup?

12 A. Audible Magic uses sound fingerprints for its lookup,
13 which are based on the acoustic characteristics of the sound,
14 not a hash value.

15 Q. And do you recall counsel asking you several questions
16 about the various levels of the Audible Magic lookups in terms
17 of a Level 1 versus a Level 3?

18 A. Yes, I do.

19 Q. And do you have an understanding about whether there are
15:27:25 20 any reliability differences for lookups as between a Level 1 or
21 a Level 3?

22 A. My understanding, both after doing a few mathematical
23 calculations and trying to find a difference, and also after
24 speaking to Audible Magic's engineers, is that there is no
25 difference in the accuracy. They're both ultimately reliant on

1 the same length of sound clipping to generate the actual
2 fingerprint and have the same reliability according to their
3 testing with respect to the results.

4 Q. And do you recall counsel asking you a number of questions
5 about a directory of files from a hard drive?

6 A. I do, yes.

7 Q. And just to be clear, that spreadsheet that has the
8 directory of the files on the hard drive, that's something
9 separate from the notice data that contains the information
10 that was reported to Cox, correct?

11 A. Absolutely, yes.

12 Q. All right. So -- and to be clear, the digital
13 fingerprints that are submitted to Audible Magic for a lookup,
14 that's something separate than a hash ID for file
15 identification, correct?

16 A. That is correct as well.

17 Q. Okay. So let's say that there's a file with a hash. For
18 simplicity purposes, we'll just call it XYZ.

19 A. Okay.

15:28:41 20 Q. I've looked at a number of these. It's too hard to
21 pronounce.

22 First of all, if a file -- and we're just identifying
23 the file by hash XYZ, do you know if that file with that hash
24 XYZ can be distributed on both the -- on more than one
25 peer-to-peer network at a time?

1 A. Absolutely.

2 Q. For instance, could a file with a hash XYZ be distributed
3 on both the BitTorrent and Gnutella network?

4 A. Yes, it could.

5 Q. And provided files have the same hash value -- okay? So
6 let's go back to the XYZ example for a moment. Provided that
7 they have the same hash value, will they have the same contents
8 regardless whether I pull it off today, or pull it off a year
9 ago, or a year from now?

15:29:33 10 A. The contents will be the same regardless of when you pull
11 it, unless there has been some damage to the file.

12 Q. So do you recall counsel asking you some questions about
13 your review of evidence packages?

14 A. I do.

15 Q. And I believe you indicated you reviewed something like
16 175,000 evidence packages; is that correct?

17 A. It was between 175 and 176. I don't remember the exact,
18 but yes.

19 Q. And counsel, I think, asked you whether you were able to
15:30:05 20 -- whether there was an evidence package available for your
21 review corresponding to every single notice that went to Cox.

22 Do you recall those questions?

23 A. I recall those questions.

24 Q. And I think you indicated that there was some portion of
25 the notices, the evidence packages, weren't available for your

1 review, right? You were -- so --

2 A. That's correct, yes.

3 Q. Okay. Did your ability to review 175,000 evidence
4 packages rather than the ones corresponding to all notices, did
5 that have any impact on your ability to assess the accuracy and
6 reliability of the MarkMonitor system?

7 A. No. Because I looked at the evidence that was made
8 available in this case, and I cross-correlated the evidence of
9 the evidence packages to the notices where I was able to do
10 that. Obviously did that mostly programatically, though I also
11 visually inspected it.

12 I found it to be entirely consistent. And it was
13 also entirely consistent with the software. And so, I found no
14 deviation there.

15 So I would expect that the remainder of the notices,
16 which contain copies of information from the evidence files,
17 had those evidence files been available, they would have been
18 consistent with everything else that I saw.

19 Q. Let me just follow up with a couple final questions. So,
20 first of all, you reviewed the data in the notices for every
21 notice that went out in this multiyear period to Cox from
22 MarkMonitor, correct?

23 A. My programs and I did, yes.

24 Q. I understand that. And am I correct that you testified
25 earlier that the notices at issue draw information from the

1 evidence packages, correct?

2 A. That's correct, yes.

3 Q. Yeah. So does your ability to review the notices in any
4 way have any impact or give you any insights to evidence
5 packages for those detected infringements?

6 A. Well, based on the 175,000 that I looked at, the
7 information in the notices comes directly from the evidence
8 packages.

9 So the same evidence is present in both places, at
10 15:32:25 least with respect to that evidence used in the notices or used
11 for the notices.

12 Q. Sure. And, you know, my last question right now concerns
13 the timing of the notices for which the evidence packages
14 weren't available at the time of your review.

15 How -- do you recall how those relate to the timing
16 of the claim period in this case?

17 A. I think that they either predate or come right at the very
18 beginning of the time period. I would want to look back to my
19 report with the note about the exact date of where that cutoff
20 15:33:04 was.

21 Q. Sure. Why don't we give you the opportunity to refresh
22 your recollection by looking at your report.

23 A. Sure.

24 Q. And I believe that's in the binder in front of you. It's
25 the first -- it appears to be 4-A, and you may arrive at the

1 page faster than I might. It's page 29.

2 A. Okay. Thank you, counsel. The time period where the
3 notices were missing was January 16, 2013, which I understand
4 to be a time period before the time period for the notices that
5 are at issue in this case.

6 Q. Okay. So for the notices that went to Cox during the
7 claim period in this case, you were able to review the source
8 code, the evidence packages, the notices, and the notice data
9 that issued, as well as do all the other things you talked
10 about today?

11 A. Let me just check something here.

12 That is correct with respect to a smaller number of
13 notices that were missing during the time frames of 6 to 8 p.m.
14 for a few days in 2013.

15 MR. ZEBRAK: But you have -- do you have any reason
16 -- well, actually, strike that. We're done.

17 Thank you, Your Honor.

18 THE COURT: Okay. All right. May
19 Ms. Frederiksen-Cross be excused?

20 MR. BRODY: May I have a very brief recross?

21 MR. ZEBRAK: Yes, Your Honor.

22 THE COURT: No, we've done enough.

23 All right, you're excused with our thanks. Please
24 don't discuss the testimony that you've given with any -- here
25 today with anybody else until our trial is over. All right?

1 THE WITNESS: Okay.

2 THE COURT: All right. Have a good evening. Thank
3 you.

4 THE WITNESS: Thank you very much.

5 NOTE: The witness stood down.

6 THE COURT: All right. Let's take our afternoon
7 recess.

8 We'll take 15 minutes and we'll come back with
9 further testimony.

15:35:30 10 Thank you. You're excused.

11 NOTE: At this point the jury leaves the courtroom;
12 whereupon the case continues as follows:

13 JURY OUT

14 THE COURT: All right. Anything before we recess?

15 MR. ZEBRAK: No. Thank you, Your Honor.

16 THE COURT: All right. We're in recess.

17 NOTE: At this point a recess is taken; at the
18 conclusion of which the case continues in the absence of the
19 jury as follow:

16:00:46 20 JURY OUT

21 MR. OPPENHEIM: I think we have reached agreement to
22 stipulate to the entry of certain exhibits. We can just do
23 that before the jury comes out, and then we're ready to go.

24 THE COURT: That's fine.

25 MR. OPPENHEIM: So, Your Honor, I believe that there

1 is agreement for entry of PX 11, PX 16, PX 33, PX 17, and
2 PX 14. Did I get that right?

3 MR. BRODY: I think so.

4 MR. OPPENHEIM: I skipped this one.

5 MR. BRODY: Yes. PX 11, yes. PX 16, yes. PX 33,
6 yes. PX 17, yes, on the understanding that's a compilation of
7 notices, there are two of those, one that was sent to us --
8 their copy of what they sent to us and our copy of what we
9 received are slightly different. We want both of them in.

16:01:46 10 MR. OPPENHEIM: Okay. In which case, then I'll just
11 lay a foundation because I don't know what exhibit that is.

12 THE COURT: Keep working on that one, then.

13 MR. BRODY: And PX 14 is fine.

14 THE COURT: Good. Thank you for working that out.
15 Those will be received.

16 Are we ready for our jury, then?

17 All right, Joe. Let's get our jury, please.

18 NOTE: At this point the jury returns to the
19 courtroom; whereupon the case continues as follows:

16:02:55 20 JURY IN

21 THE COURT: All right. Please have a seat.

22 Mr. Oppenheim, next witness, sir.

23 MR. OPPENHEIM: Your Honor, plaintiffs would call
24 Samuel Bahun.

25 NOTE: The witness is sworn.

1 THE COURT: Good afternoon, sir.

2 Please proceed, Mr. Oppenheim.

3 MR. OPPENHEIM: Thank you, Your Honor.

4 SAMUEL BAHUN, called by counsel for the plaintiffs,
5 first being duly sworn, testifies and states:

6 DIRECT EXAMINATION

7 BY MR. OPPENHEIM:

8 Q. Good afternoon, Mr. Bahun.

9 A. Good afternoon.

16:04:01 10 Q. Where do you work?

11 A. I work for MarkMonitor.

12 Q. And what is MarkMonitor's business?

13 A. MarkMonitor is a global leader in brand protection,
14 antipiracy, and antifraud services, as well one of the largest
15 domain registrars.

16 Q. And just for the benefit of the court reporter, because
17 I'm saying Bahun, and I've made this mistake myself, how do you
18 spell your last name?

19 A. It's B-a-h-u-n.

16:04:33 20 Q. Thank you. And what is your current position at
21 MarkMonitor?

22 A. I am the director of strategic accounts.

23 Q. And as the director of strategic accounts, what do you do?

24 A. So I work under the antipiracy division of the company.

25 And I'm responsible for working with the larger accounts, the

1 more important accounts that we have, managing various aspects
2 of the antipiracy services that we deliver to them.

3 Q. And, technically, what department is your -- are you in
4 within antipiracy?

5 A. So my position under the org chart falls under the sales
6 organization, but I am more of a hybrid role. I -- a lot of
7 what I do is more consultative, working with various content
8 owners from kind of the start of their evaluation of issues
9 that they're facing and problems that they're seeing with
10 piracy, all the way through the sales process, and then the
11 implementation, kind of the management of the technical aspects
12 of their services.

13 Q. Do you provide end-to-end service --

14 A. Yes.

15 Q. -- for your clients?

16 A. Yes.

17 Q. And how long have you worked for MarkMonitor?

18 A. I have worked for MarkMonitor for nine-and-a-half years.

19 Q. And prior to working at MarkMonitor, where did you work?

20 A. I worked for a company called MediaSentry.

21 Q. And what is MediaSentry or was MediaSentry?

22 A. Yeah, MediaSentry was also a vendor that provided
23 antipiracy services.

24 Q. And how did those antipiracy services differ from the
25 antipiracy services that MarkMonitor offers?

1 A. There were a lot of similarities, they covered many of the
2 same areas. Back when we started, you know, the space was a
3 little different, so there were some variations, but
4 essentially the same services.

5 Q. And what was your role at MediaSentry?

6 A. When I started off, it was more of a technical role. So I
7 worked in operations, did analyst work, and held a few
8 different positions throughout the time that I was there,
9 starting off in more technical and then working kind of into
10 more business-related roles.

16:06:54

11 Q. And for what period did you work at MediaSentry?

12 A. So I started at MediaSentry in May of 2003. So I was
13 there for about six-and-a-half years.

14 Q. So all told, how many years have you been working in the
15 business of antipiracy?

16 A. Just over 16 years.

17 Q. Let's talk a little bit more about MarkMonitor. When was
18 MarkMonitor founded?

19 A. MarkMonitor was founded in 1999.

16:07:31

20 Q. And can you describe the different types of business that
21 MarkMonitor is in.

22 A. Sure. Yes. So originally it was founded as a brand
23 protection company. So they were focused on helping companies
24 protect their brands and their presence online. They actually
25 were kind of the inventor of that space.

1 And then from there, they grew into working with
2 antipiracy and antifraud and the domain services as the
3 registrar.

4 Q. And what kinds of clients does MarkMonitor provide
5 services to?

6 A. A pretty broad list. We work with, I think, over half of
7 the Fortune 100 companies across virtually every industry. So
8 we have -- we work with companies like Verizon, Nissan,
9 Coca-Cola.

16:08:30 10 On the domain side, it's -- the list is very long.
11 We work with companies like Apple and Google, that sort of
12 companies.

13 Q. Does MarkMonitor do work in the financial industry?

14 A. We do, yes.

15 Q. And does MarkMonitor do work in -- with respect to sports
16 leagues?

17 A. Yes. We work with most of the major pro sports leagues.

18 Q. And what kind of services does MarkMonitor provide to
19 professional sports leagues?

16:09:06 20 A. So the sports leagues own a lot of content from the games,
21 video content. And so, the work we do with them is primarily
22 focused on piracy of the live streams.

23 So, you know, the football games that are airing, a
24 lot of times those streams get pirated and offered to consumers
25 through a variety of pirate environments. So, yeah.

1 Q. Is it more than just football?

2 A. Yes.

3 Q. Does MarkMonitor also do work in the film and television
4 space?

5 A. Yes.

6 Q. And what kind of work does MarkMonitor do there?

7 A. Again, kind of a variety. For film and TV content, we
8 provide services related to peer-to-peer piracy, Web piracy,
9 piracy that's made available on search engines. There is a
10 number of areas. Really virtually any area that we see piracy
11 occurring, we provide services to identify that and take
12 action.

13 Q. Are there other content industries that MarkMonitor does
14 work for in the antipiracy space beyond movies and television?

15 A. Yeah, yes. So I think virtually all the media types. We
16 work with film, TV, music, publishing, video games, software,
17 all the different categories you would assign to that content,
18 yeah.

19 Q. And what types of antipiracy services does MarkMonitor
16:10:45 20 offer with respect to peer-to-peer networks?

21 A. The main focus is in monitoring the infringing activity
22 that is taking place. So identifying the infringement that is
23 occurring, collect evidence, and send notices to the ISPs to
24 inform them of it.

25 Q. And how many ISPs does MarkMonitor send notices to?

1 A. Globally, it's in the thousands. In the U.S., hundreds.

2 Q. So you have mentioned a lot of large companies and
3 industries that retain MarkMonitor. Based on your experience
4 in talking to them, do you have a sense of why MarkMonitor is
5 retained by all these companies?

6 A. Yeah. I mean, our reputation, our history and our
7 reputation that we maintain in this area is impeccable. I
8 mean, we have become in many ways kind of the leaders in this
9 space. And the services that we provide are critical for
10 content owners to identify and understand the level of
11 infringement that is taking place and, you know, do something
12 about it. So ...

13 Q. In the course of your antipiracy work, do you have any
14 background in working with law enforcement?

15 A. Yes. So, yeah, in addition to all the stuff we have
16 already talked about, I have assisted the Department of Justice
17 in conducting training with their agents, as well as FBI and
18 Homeland Security.

19 I have also worked in kind of a consultative role
16:12:38 20 with the Royal Canadian Mounted Police in their efforts to
21 identify and address things like human trafficking, child
22 exploitation, that kind of thing.

23 As well as I have done kind of ongoing -- I
24 occasionally do work with local and state law enforcement and
25 teams of prosecuting attorneys.

1 Q. And when you're doing work with law enforcement like this,
2 is this just sales work, or is it something different?

3 A. No, actually, none of that would be considered sales. It
4 is more related to training and consulting those groups to help
5 them understand, you know, the technology that is involved and
6 the crimes that they're working with and, you know, helping
7 them understand how to -- how to monitor it and how to interact
8 with those issues, yeah.

9 Q. Do you also work with state law enforcement from time to
10 time?

11 A. Yes.

12 Q. When did you start working on peer-to-peer networks?

13 A. So I started -- back at the beginning of my career, I
14 actually started my career in antipiracy on a team that was
15 hired to work with the music industry related to Napster. So
16 at the very beginning of peer-to-peer.

17 Q. And what role did your team play in the Napster case?

18 A. So we were hired at that time to collect data on the
19 infringing activity taking place and provide evidence that
20 supported the various enforcement efforts that were going on at
21 that time.

22 Q. Over the course of the last -- over the course of the time
23 that you have been working on peer-to-peer activities, roughly
24 how much of your time is dedicated to peer-to-peer versus other
25 types of piracy?

1 A. Probably -- I mean, it has been continuous throughout the
2 16-and-a-half years. But I would -- I would estimate about
3 half of my time. I mean, it's a big portion of what I do,
4 yeah.

5 Q. At a high level, over the course of your time working with
6 peer-to-peer, can you describe for me, consumer perspective,
7 what a peer-to-peer network is for?

8 A. Yes. So, I mean, at a high level, peer-to-peer networks
9 predominantly are used to gain access to pirated content.

16:15:19 10 Q. Can peer-to-peer -- based on your understanding, can
11 peer-to-peer be used for other purposes?

12 A. Sure, yes.

13 Q. And what experience do you have in seeing peer-to-peer
14 used for non-piracy purposes?

15 A. I mean, there are -- there are some examples where
16 software companies and others have been able to leverage the
17 technology as a means to distribute content, you know, across
18 different groups of people.

19 Most of the time, I think, the legitimate -- or, you
16:15:58 20 know, the legitimate uses of it, it's often integrated in the
21 background of a piece of software. So the people don't even
22 know that it is leveraging that.

23 But that is, you know, one example that I can think
24 of where peer-to-peer software can be used in a legitimate
25 manner.

1 Q. And are you aware of the four peer-to-peer networks at
2 issue in this case?

3 A. Yes.

4 Q. And what are they?

5 A. BitTorrent, eDonkey, Gnutella, and Ares.

6 Q. And in your experience, to what extent of the content on
7 those networks is infringing or is piratical?

8 COURT REPORTER: I am sorry, counsel?

9 MR. BRODY: Objection.

16:16:38 10 MR. OPPENHEIM: I said piratical, but I'll go with
11 piracy. Maybe that's a little easier.

12 THE COURT: All right. Overruled.

13 THE WITNESS: I'm sorry. Can you repeat the
14 question?

15 BY MR. OPPENHEIM: (Continuing)

16 Q. In your experience on those four networks --

17 A. Yeah.

18 Q. -- to what extent is the content piracy?

19 A. It'd be difficult for me to quantify it. But the
16:16:58 20 overwhelming majority of the content we see on those networks
21 is pirated content.

22 Q. In the course of your work, do you monitor what's
23 happening on peer-to-peer networks?

24 A. Yes.

25 Q. And how do you do that?

1 A. So we've developed proprietary technology at MarkMonitor
2 that interacts with the peer-to-peer networks in very similar
3 ways to a typical user. But our technology allows us to do it
4 at a much larger scale.

5 And so, we use the scanning technology that we've
6 developed to monitor that activity.

7 Q. And do you ever monitor it just to get a sense of the
8 total measure of what's happening on the networks?

9 A. Yes.

16:17:53 10 Q. And how often do you do that?

11 A. So we have kind of an ongoing monitoring project that we
12 run independent of any of our customers. It focuses -- it's --
13 there's so much content on those networks, it's difficult to
14 cover everything. So we developed a methodology that
15 identifies kind of a -- in a consistent manner, a sample set of
16 the most popular film, TV, and music content. And we monitor
17 on an ongoing basis for that content.

18 Q. And what do -- does that monitoring generate reports or
19 information in some way?

16:18:35 20 A. Yeah. So the data that we -- the data we collect from
21 that gives us kind of an accurate view, at least in a
22 consistent way from a statistical standpoint, on how much
23 pirated activity we see taking place on those popular titles.

24 And so, we use it in a number of ways. Some
25 customers purchase that data for their own types of analysis.

1 But internally, we can analyze it to determine what volumes of
2 infringements we're seeing from certain ISPs, for certain types
3 of content. You know, a variety of things we can analyze. But
4 those are some of what we use it for.

5 Q. Is there a term for this ongoing monitoring that you use
6 internally or externally for that matter?

7 A. Sure. Yeah, the name that we've run it under is -- we
8 call it the global digital piracy index, or GDPI for short.

9 Q. Okay. And the reports that are generated out of that, are
10 those reports you -- that you have occasion to read?

11 A. Yes.

12 Q. And how often do you review those reports?

13 A. When I have time, daily. But I would say on average,
14 probably two to three times a week I'm looking at that data for
15 various reasons.

16 Q. And is it important in the work you do?

17 A. Yes.

18 Q. And is it important that you know it for your clients'
19 purposes?

16:20:05 20 A. Yes.

21 Q. I want to turn now to MarkMonitor's relationship with the
22 RIAA.

23 Can you describe when MarkMonitor first began working
24 with the RIAA?

25 A. Yes. So I started with MarkMonitor in 2010, and at that

1 time they had an existing relationship with RIAA.

2 Q. And do you know how far back it went?

3 A. I don't -- I don't know 100 percent for sure, but I think
4 it was around 2008, maybe, when they started working together.

5 Q. And when did you first begin working with the RIAA at
6 MarkMonitor?

7 A. When -- basically when I joined. I had worked with the
8 RIAA prior to working for MarkMonitor, so there was an existing
9 relationship personally. But -- so when I joined MarkMonitor,
10 it was easy for me to kind of start working with them

11 immediately.

12 Q. And what was your role? What did you -- what did you do?

13 A. So at that time, again, with my background in
14 peer-to-peer, I was working with a few others at MarkMonitor to
15 kind of assist and manage the scanning projects and notice
16 sending programs that we were running for RIAA.

17 Q. And were there ongoing scanning projects -- excuse me.

18 Were there ongoing scanning projects as far back as
19 2010?

20 A. Yeah. I don't -- again, I don't remember what was going
21 on prior to that. But, yes, around that time when I got
22 involved there was a project that was being worked on, yeah.

23 Q. And did those scanning projects involve any kind of notice
24 sending?

25 A. Yes.

1 Q. And to whom were notices being sent?

2 A. There were a couple different groups, but primarily I
3 recall residential ISPs.

4 Q. And when you say "residential ISPs," would that include
5 Cox Communications?

6 A. Yes.

7 MR. OPPENHEIM: Did we give him a notebook yet? All
8 right. We forgot to -- can we hand up the notebook to the
9 witness, or have we done it already?

16:22:40 10 THE COURT: Yes.

11 MR. OPPENHEIM: Thank you.

12 BY MR. OPPENHEIM: (Continuing)

13 Q. Mr. Bahun, in this notebook could you please look at PX 4,
14 which I believe should be the second tab of the notebook. It's
15 the next --

16 Move it into evidence.

17 THE COURT: I've got it.

18 MR. OPPENHEIM: We'll move it into evidence. Cox
19 does not object.

20 THE COURT: No objection?

21 MR. BRODY: No objection.

22 THE COURT: All right. It's received.

23 MR. BRODY: Okay. Can we publish this to the jury,
24 please?

25 THE COURT: Yes, sir.

1 BY MR. OPPENHEIM: (Continuing)

2 Q. Do you recognize this document, Mr. Bahun?

3 A. Yes.

4 Q. And what is it?

5 A. This is an SOW, what we call a statement of work.

6 Basically the contract between MarkMonitor, at this time doing
7 business under the name DtecNet, and the RIAA.

8 Q. If you would pull that microphone just a little bit closer
9 to you because your voice is fading a little.

10 A. Okay. Sorry.

11 Q. This happens late in the day. Thank you.

12 So you -- there was a bunch there. So you used the
13 name DtecNet. Who is DtecNet?

14 A. So DtecNet was an antipiracy company that was acquired by
15 MarkMonitor and essentially became MarkMonitor's antipiracy
16 division.

17 Q. Were you actually working for DtecNet in 2010?

18 A. Yes.

19 Q. When it became MarkMonitor?

16:24:27 20 A. Yes.

21 Q. Okay. And what is the -- what is the date of this
22 agreement?

23 A. February 15, 2012.

24 Q. And this is -- is this the agreement under which
25 MarkMonitor was sending notices in the 2012 to 2013 time frame?

1 A. Yes.

2 Q. And were there subsequent agreements like this for -- that
3 extended this program out to 2015?

4 A. Yes.

5 Q. I'd like to direct your attention to page PX 00040004.

6 Do you see the section where it says: Supported file
7 sharing networks?

8 A. Yes.

9 Q. Can you explain what this provision of the agreement is?

16:25:27 10 A. Yes. This section described the four peer-to-peer
11 networks that we were scanning as part of this agreement.

12 Q. And what were those networks?

13 A. BitTorrent, Gnutella, eDonkey, and Ares.

14 Q. Between 2012 and 2015, did MarkMonitor add any additional
15 networks to its scanning work?

16 A. No, I don't believe so.

17 Q. And you used the term "scanning," and then I picked it up.
18 But could you explain what you mean by scanning?

19 A. Sure. So it is kind of a general term, but essentially
16:26:20 20 scanning is where we would deploy our system to identify
21 infringing files on these networks, and then we would monitor
22 for the infringements that are occurring.

23 So generically we would refer to that as scanning.

24 Q. And is there an -- did this agreement contemplate that
25 there would be certain quantities of notices that would be sent

1 under it?

2 A. Yes. I believe there's a page in the agreement that
3 describes that.

4 Q. Can you tell me which page that is?

5 A. It is PX 00040008, labeled Appendix A.

6 Q. Can we pull that up, please.

7 And -- great. Can you explain what this appendix
8 shows.

9 A. Yes. So this table details the estimated volume of
10 notices that we would send by ISP per month.

11 So on the left-hand side, you have a list of ISPs put
12 into kind of two groups there. And then across the top, you
13 can see months. And the corresponding numbers describe the
14 volume of notices per month.

15 Q. So there seem to be, I think, five ISPs at the top and it
16 says: Participating.

17 Do you see that?

18 A. Yes.

19 Q. What is that a reference to?

16:28:13 20 A. At this time there was a notice program in place where the
21 five ISPs in that section were kind of willing participants.
22 So they -- the term that was used for those was to describe
23 them as participating.

24 Q. And what was that program called?

25 A. It was the Copyright Alert System. So CAS for short.

1 Q. And so, the volumes of notices there set for the CAS
2 participating ISPs, do you know how those volumes were set?

3 A. I don't know all of it. But the data I described earlier,
4 the GDPI data that we used to kind of evaluate volumes, was one
5 element of it.

6 Ultimately, the decision was not ours. So, you know,
7 it was -- RIAA had a process they went through, and I think
8 they took the data that we provided as kind of one element of
9 that decision.

16:29:12 10 Q. And it appears that some of these ISPs seem to, over time,
11 increase their numbers. Can you explain that, please.

12 A. Yes. So at the beginning of the -- this graduated
13 response program, there was a ramp-up period. And so, you
14 know, it didn't start with kind of the full volume that was
15 expected from day one because it was a -- kind of a structured
16 program, we -- that they had planned for the volumes to kind of
17 increase gradually over the first few months.

18 Q. Looking at March of 2013, the last month in the year here,
19 what was the anticipated notice volume for AT&T?

16:30:04 20 A. 28,750.

21 Q. And how about Cablevision?

22 A. 17,250.

23 Q. And how about Comcast?

24 A. 29,000.

25 Q. How about -- what is TWC? That's the next one.

1 A. Time Warner Cable.

2 Q. Okay. So what was the anticipated notice volume for TWC?

3 A. 20,125.

4 Q. And what was the notice volume for Verizon?

5 A. 43,125.

6 Q. Now, skip down below. Do you see Cox in the next box?

7 A. Yes.

8 Q. For that same month in 2013, what was the anticipated
9 notice volume there?

16:30:44 10 A. 7,200.

11 Q. And do you know why that number was as low as it was?

12 A. Yeah. The -- Cox is kind of the one that stands out as an
13 exception in this table because I -- and I recall it because
14 it's the only time we've ever seen this occur. We were -- we
15 were told by the RIAA that a cap, a daily limit had been set by
16 Cox and communicated to them.

17 MR. BRODY: Objection. Move to strike.

18 MR. OPPENHEIM: I can clarify it if you'd like, Your
19 Honor.

16:31:31 20 THE COURT: Well, it's hearsay.

21 MR. OPPENHEIM: It is, but it -- if he's offering it
22 because that was the basis of what was in the contract, his
23 understanding of what was in the contract, it goes to why they
24 entered into that agreement.

25 THE COURT: Yeah. I'm going to strike it. Objection

1 sustained.

2 Go ahead. Ask your next question.

3 BY MR. OPPENHEIM: (Continuing)

4 Q. In the lower box here that starts with AOL, could -- do
5 you know generally how the quantities of notices were
6 determined? The anticipated -- excuse me. The anticipated
7 notice volume was determined for the boxes down below, the ISPs
8 in the box down below?

9 A. Yes. The part of the process we were involved in was
10 looking and analyzing that -- the infringement volume that I
11 mentioned earlier, to get a sense of what -- you know, how much
12 infringing activity we were seeing on the networks for these
13 specific ISPs.

14 And so, based on that and some analysis around that
15 data, we were able to come up with estimated volumes that we
16 would expect.

17 Q. I apparently skipped a point. In that box, it says:
18 Non-participating; does it not?

19 A. Yes.

16:32:47 20 Q. Right above it. What does non-participating mean?

21 A. Again, just a general term that was used to differentiate
22 ISPs who were not participating in the Copyright Alert System.

23 Q. And so for those ISPs, with the exception of Cox, what
24 data did you use to insert anticipated notice volumes? I'm
25 sorry.

1 A. The infringement data that we collected on the broader set
2 of content just to kind of analyze and estimate what level of
3 infringing activity we were seeing on the various networks.

4 Q. And that was the GDPI data you discussed earlier?

5 A. Yes.

6 Q. Do you recall what the GDPI data showed for Cox at that
7 period of time?

8 MR. BRODY: Your Honor, may I approach?

9 THE COURT: Yes, sir.

16:33:43 10 NOTE: A sidebar discussion is had between the Court
11 and counsel out of the hearing of the jury as follows:

12 AT SIDEBAR

13 THE COURT: Yes, sir.

14 MR. BRODY: This is the pulse monitoring question.
15 So we maintain our objection. I think that the testimony that
16 he gave was that all they are doing is basically seeing how
17 many -- how much traffic there is with respect to swarms. It
18 has nothing to do with infringement. It has nothing to do with
19 anything.

16:34:30 20 There is no foundation. I think if he's asked, he
21 will testify that the information they gathered was
22 insufficient to support notice. I think he will testify that
23 they didn't determine whether the peers involved were actually
24 running P2P software.

25 I think he will testify that they didn't actually

1 determine that the computers were operational. Those are
2 higher levels of inquiry than what they did.

3 And as a consequence -- I think he also testified
4 that he actually wasn't the one who was preparing and
5 collecting this data, and that he is basically relying on what
6 other people did.

7 So I think that the bottom line, the data is -- it's
8 being offered to create the inference that Cox had a lot more
9 infringement on its network than is commensurate with the level
10 of notices that they were receiving. And it's not probative of
11 that fact. It simply isn't probative of infringement.

12 MR. OPPENHEIM: I don't think that is quite an
13 accurate description of what Mr. Bahun said. He said that they
14 used music, movies, and televisions to do searching, and that
15 that formed a basis for the pulse checks for GDPI data. He
16 testified that it's something that they do regularly. He
17 relies on it regularly. He reviews it regularly. He uses it
18 to inform his clients regularly.

19 He said it informed him on the decisions of what the
16:36:15 20 other ISPs -- the anticipated notice volumes for the other ISPs
21 would be. And I think he's laid a foundation, and Mr. Brody is
22 free to cross-examine him on it.

23 THE COURT: Well, it obviously does not have to be
24 just data collected for purposes of sending notices. Right? I
25 mean, that's not the only use you can make of this kind of

1 data.

2 So that is something that I had been thinking about
3 earlier. So --

4 MR. OPPENHEIM: I can clarify that, Your Honor, that
5 the GDPI data was not used for sending notices.

6 MR. BRODY: Can we also -- can I also ask for a
7 clarification that it is not indicative of the level of
8 infringement on the Cox system? Because that's the real issue.
9 They want to use this as evidence of the amount of infringement
10 that was going on.

16:37:08

11 THE COURT: Of traffic, P2P traffic?

12 MR. BRODY: It could be his --

13 THE COURT: He is not going to say it is all
14 infringement. He hasn't looked at it. But he has said already
15 generally that most of the P2P traffic is pirating. So it's
16 already in.

17 What's his response going to be to these questions?

18 MR. OPPENHEIM: That when he looked, he saw well over
19 10,000 Cox subscribers distributing works on peer-to-peer
20 networks per day at this point in time.

16:37:43

21 And I also think that when he was doing searching,
22 what they were searching for was, in fact, infringing content,
23 movies, music, television shows. So it's not fair to say that
24 it's not indicative necessarily of piracy.

25 Again, I'm not saying, and he has not said that it's

1 a basis for infringement notices, but this is the basis upon
2 the contract --

3 THE COURT: What's the reliability of the underlying
4 cultivation of the information? He hasn't testified about
5 that. And that's my point. Where is it coming off of? I
6 mean, he did say --

7 MR. OPPENHEIM: I'm happy to ask him that, if you'd
8 like, Your Honor, and lay that foundation.

9 THE COURT: Is this the same platforms and software
10 systems that they are using for all the other information?
16:38:30

11 MR. OPPENHEIM: I believe he will say he's using the
12 same monitoring system, but obviously not the same evidence
13 collection notice sending because they don't go that far.

14 THE COURT: All right. Lay a foundation for that
15 and --

16 MR. BUCHANAN: Can I say something?

17 THE COURT: Yes.

18 MR. BUCHANAN: It's just we don't have any of that
19 data.

16:38:51 20 THE COURT: Yeah, I know. And your record is
21 preserved on that.

22 All right. Lay a foundation for that, where the data
23 is coming from.

24 And then your exception is noted. I will allow it.

25 Are these records that I have just said were hearsay,

1 are these business records or -- I mean, I don't know whether
2 they are or they aren't. I just expected that those would
3 be --

4 MR. OPPENHEIM: Which --

5 THE COURT: Five minutes ago I sustained an objection
6 on a hearsay ground based on Cox's low numbers in the chart
7 they were keeping for preferred and non-preferred.

8 MR. OPPENHEIM: So the question to him was, did he
9 understand why the numbers were so low. And he said, well, the
10 RIAA --

16:39:35

11 THE COURT: I talked to someone else and they told
12 me --

13 MR. OPPENHEIM: Right, which is why the agreement
14 entered into it --

15 THE COURT: It's classic hearsay.

16 MR. OPPENHEIM: Well, but it is what's -- it's the
17 basis for the contract -- it's his understanding as to why they
18 entered into the contract.

19 THE COURT: Okay. Then my ruling was correct.

16:39:52

20 MR. OPPENHEIM: That's fine.

21 THE COURT: All right. Let's continue.

22 NOTE: The sidebar discussion is concluded; whereupon
23 the case continues before the jury as follows:

24 BEFORE THE JURY

25 THE COURT: Please, go ahead.

1 BY MR. OPPENHEIM: (Continuing)

2 Q. Mr. Bahun, I would like to go back and talk about the GDPI
3 data for a moment again.

4 When MarkMonitor is collecting this data -- strike
5 that.

6 How does MarkMonitor go about collecting this data?

16:41:02 10

7 A. So it starts with going out to the peer-to-peer networks
8 and searching for files that match for the titles that we're
9 scanning for. So in the case of GDPI, it's film, TV, and
10 music.

11 So we select a sample of the most popular film
12 titles. The most -- the television series, and the prime time
13 window on major networks. And we primarily focus on the top
14 billboard charts for music. That gives us a consistent way of
15 selecting the titles that we'll look for in that data set.

16 Q. Let me pause right there. Let me just interrupt you with
17 a quick question.

16:41:36 20

18 Those files that you're looking for, that you just
19 described, do you understand that you're looking for files that
20 are infringing or non-infringing?

21 A. Infringing.

22 Q. Okay. So please continue then. What's the next step in
23 the process?

24 A. So once we've -- once we've defined the titles that we're
25 looking for, we then go to the networks, the peer-to-peer

1 networks, and scan looking for, at that stage, potentially
2 infringing files.

3 When we find them, we download a full copy so that we
4 are able to verify that the files are, in fact, what we think
5 they are.

6 From there, we monitor the swarms around these files
7 and identify as much peer activity as we can. And then that's
8 where the -- that's where the scanning process for that
9 finishes.

16:42:24 10 Q. And how do you -- how do you capture that data?

11 A. I'm not -- I don't know if I understand the question.

12 Q. I think you said that you monitor the swarm, right?

13 A. Correct.

14 Q. Once you monitor the swarm, what do you see?

15 A. So we -- yeah, the result set is basically a list of peers
16 which are represented as IP addresses from that data set. So
17 we have a list of IP addresses which represent the active peers
18 in the swarm. And we're able to look up information based on
19 those IP addresses to evaluate which ISPs they are associated
16:43:06 20 with, you know, do some analysis on the volumes, that type of
21 thing, to provide estimates so that we're not -- you know, we
22 have some level of expectation based on the activity we see.

23 Q. Can you explain to the jury what a swarm is.

24 A. Sure. So on each of these peer-to-peer networks, if you
25 think of like a unique file, the files are distributed on the

1 network. And the group of people who connect around a specific
2 file, who are at some point downloading, but then eventually
3 distributing the file, that group of people who are
4 participating in the distribution of that file collectively are
5 referred to as the swarm.

6 So you can almost think of it like a swarm of bees.
7 I mean, I think that's where the term originates from. But
8 it's that group of people who are distributing that unique
9 file.

16:44:02 10 Q. And you are saying group of people. Would that be the
11 same as calling them peers?

12 A. Correct, yep.

13 Q. And then do you preserve the data that you collect from
14 this GDPI scanning?

15 A. Yes.

16 Q. And does it get digested in some manner?

17 A. Yeah, we preserve it and store it in a database. And then
18 through kind of the reporting interfaces that we have, we
19 present the data in a more kind of digestible format for humans
16:44:34 20 to look at in reports and things like that.

21 Q. And is that data organized by ISP?

22 A. Yes. That's one of the views, yeah.

23 Q. And in your experience, how reliable is this data?

24 A. It's very reliable. In the ways that we use it for
25 evaluating the overall volume and activity of the piracy, you

1 know, for that type of an analysis, it's extremely accurate.

2 Q. Now, you're not using this data to send notices, are you?

3 A. No, never.

4 Q. And so, in the -- in the period at issue in the contract
5 that's in front of you, PX 4, did you have GDPI data for Cox?

6 A. Yes.

7 Q. And do you have a recollection of what that GDPI data
8 showed?

9 A. I do. I don't recall the exact number, but I remember
16:45:38 10 there being more than 10,000 infringements per day that we
11 observed across that data set related to subscribers or, you
12 know, Cox customers.

13 Q. Now, you said per day, right?

14 A. Correct.

15 Q. Now, Appendix A, is that -- are those figures per day?

16 A. No. Those are -- those are monthly volumes.

17 Q. So roughly speaking, if you were sending notices 20 days
18 in a month at 10,000 a day, what would that have been, the
19 volume?

16:46:17 20 A. I'm sorry, 10,000 a day?

21 Q. Yeah --

22 A. For 20 days?

23 Q. For 20 days in a month, what would that volume have been?

24 A. So 200,000. Testing my math skills.

25 Q. You passed. Are you familiar with how the MarkMonitor

1 system works to send notices under the agreement with the RIAA?

2 A. Yes.

3 Q. And did you help prepare a demonstrative to explain that
4 to the jury?

5 A. Yes.

6 MR. OPPENHEIM: Can we please call up -- with your
7 permission, Your Honor, we will publish.

8 THE COURT: Yes, sir.

9 BY MR. OPPENHEIM: (Continuing)

16:47:26 10 Q. Is this the demonstrative that you helped prepare,
11 Mr. Bahun?

12 A. Yes.

13 Q. Can you walk the jury through -- I see there are four
14 steps here; is that correct?

15 A. Correct.

16 Q. Can you walk the jury through the first step of what
17 MarkMonitor does in this process.

18 A. Sure. And I mentioned some of this when we were talking a
19 little bit about GDPI. But you can basically think of it in
16:47:53 20 these kind of high-level steps. So the initial step is where
21 we would take the information related to the song files in this
22 case that we were searching for and go to the P2P networks and
23 search for files matching those song titles.

24 Q. Okay. And then what would you do?

25 A. So once we -- again, at that stage we would consider those

1 potentially infringing files.

2 The next step would be to download a full copy of any
3 of those files that we've detected with the initial search.
4 And once they're downloaded in their entirety and we have
5 songs, we can then verify that they are, in fact, you know, the
6 song that we were looking for.

7 Q. And how do you go through that verification process?

8 A. For that step, we use a piece of technology from a company
9 called Audible Magic.

16:48:49 10 Q. And where are you downloading the files from?

11 A. The files are downloaded from the peer-to-peer networks
12 where they're found to exist.

13 Q. And why do you use Audible Magic to do the identification?

14 A. For a couple of reasons. One, they're the most accurate.
15 They're kind of the industry standard for this type of thing.

16 But they also allow us to conduct this step of the
17 process, the verification at a very large scale. We're dealing
18 with thousands of files. And so, it's more accurate and more
19 scaleable to use Audible Magic's technology.

16:49:32 20 Q. And for how long have you been using Audible Magic?

21 A. I've been working with Audible Magic's technology, I
22 think, for at least 15 years. I mean, it goes back to very
23 early in my career.

24 Q. And roughly speaking, do you have any idea of how many
25 files you've submitted to Audible Magic?

1 A. Over the course of that time, it's in the millions.

2 Q. And have you ever had occasion to see Audible Magic
3 misidentify a recording?

4 A. No, never a single one misidentified.

5 Q. So what happens after you get a confirmation that a file
6 is infringing?

7 A. So once it's confirmed that it's infringing, then we move
8 on to the third step in this diagram here where we collect
9 evidence.

16:50:21 10 And what's involved there is we actually connect --
11 we establish a full connection with every peer who is involved
12 in the swarm to collect that evidence about the file that
13 they've distributing.

14 Q. And where do you collect that evidence to?

15 A. Into our system, yeah.

16 Q. And what is the process of collecting the evidence? Can
17 you describe that.

18 A. Sure. So after the file has been verified as infringing
19 and we're monitoring the swarm, we see peers, in some cases
16:51:02 20 peers that are already actively distributing the swarm. Our
21 system will sit and monitor that so we can see as new peers
22 enter.

23 And as new peers are discovered, our system will
24 establish a full connection with that peer. That connection
25 allows us to kind of communicate back and forth through the

1 specified process that the peer-to-peer network has
2 established.

3 Each of those communication steps are logged in the
4 evidence that we store for that instance of infringement.

5 Q. If you don't connect to a peer, can you see what a peer on
6 the swarm is doing?

7 A. Can you clarify? Sorry.

8 Q. I think you testified that when a peer comes into the
9 swarm, you connect to them, and so you can exchange

16:52:01 10 information. Are you able to see what one peer is doing with
11 another peer if you're not connected to them?

12 A. No.

13 Q. And why is that?

14 A. It's the design of the protocols. So we can have full
15 visibility into what the peer is doing if we are connected
16 directly to them, but we don't have visibility of their
17 communication with other peers.

18 Q. And what is it that -- the process of connecting to the
19 peer that you engage in, what is that called?

16:52:36 20 A. Oftentimes we call it the handshake.

21 Q. And what is the handshake?

22 A. So it's essentially a process, you can think of it as a
23 digital handshake where there's an exchange of certain messages
24 from our side and from the other peer's side, and kind of that
25 mutual exchange of messages is what we refer to as the

1 handshake.

2 And part of those messages, there's some key data
3 that's exchanged. The peer confirms to us what file. Based on
4 the unique file identifier, it's called a hash. They give us
5 that hash. They also tell us how much of the file they have
6 and are distributing in the swarm.

7 Q. Does MarkMonitor actually download the infringing file
8 from that peer?

9 A. No. At that point, it's not necessary.

16:53:34 10 Q. Why not?

11 A. Well, we've already downloaded the file in its entirety
12 when we initially found it. So we know what the file is, and
13 we have the unique file identifier that guarantees what that
14 file is. It's unique to that specific file.

15 And so, when we communicate with the peer, they tell
16 us what they have, which confirms the file, and they tell us
17 what they're distributing. So there's no need to go further
18 than that when they've confirmed it.

19 Q. Okay. So what happens after MarkMonitor collects
16:54:11 20 information about a peer's distribution and stores it?

21 A. So after we collect that information, the collection of
22 all of that data is packaged up and certain elements of the
23 data are then inserted into what we call a notice. You can
24 think of it as an e-mail.

25 We put that information into the notice, and then the

1 notice gets sent out to the ISP of the peer that we've observed
2 or collected.

3 Q. And would that notice also sometimes be called an
4 infringement notice?

5 A. Yes. Sorry, yeah, infringement notice.

6 Q. And in the case of RIAA, how would the infringement notice
7 be sent?

8 A. In the case of this program we're talking about, we were
9 sending them through e-mail.

16:55:07 10 Q. And who was the sender?

11 A. MarkMonitor.

12 Q. Did the RIAA participate in that process?

13 A. They, I believe, provided us with an e-mail address that
14 they wanted us to send it from. But we were the ones carrying
15 out the actual sending of the notices.

16 Q. And was that e-mail address a MarkMonitor address or an
17 RIAA address?

18 A. I believe it was an -- yeah, it was an RIAA address.

19 Q. Let me turn to the records that you kept for this process.

16:55:43 20 I believe PX-11 is already in evidence, Your Honor.
21 I'd ask to publish.

22 THE COURT: Yes, go ahead. You may publish any
23 exhibit that's already in evidence that you choose.

24 MR. OPPENHEIM: Thank you, Your Honor.

25 BY MR. OPPENHEIM: (Continuing)

1 Q. Do you recognize this document?

2 A. Yes.

3 Q. And can you just briefly -- is this a MarkMonitor
4 document?

5 A. Yes. This is a spreadsheet that we produced containing
6 the records of all of the song files that we downloaded and
7 verified using Audible Magic.

8 Q. Okay. I see there are four tabs.

9 A. Yes.

16:56:33 10 Q. And they relate to each of the networks; is that right?

11 A. Correct.

12 Q. If we look through the four tabs, would they generally
13 look similar?

14 A. Yes.

15 Q. Okay. Can you just quickly walk across this spreadsheet
16 and describe what's in it.

17 A. Sure. So we're on the first tab, meaning BitTorrent. So
18 all of these files were downloaded from BitTorrent.

19 The first column is a Torrent ID, it's just a unique
16:57:09 20 identifier that we attach to a specific torrent file.

21 The next column is Info Hash. So this is the SHA-1
22 hash value or the unique identifier for the torrent.

23 The next column is Matched As. This shows you the
24 key words that we matched when we were looking for the
25 potentially infringing file.

1 Q. So that was what you were searching for?

2 A. Correct.

3 Q. In the first step?

4 A. Correct. The next is Verified Type Name. This is simply
5 a flag in our database to indicate that the file has been
6 confirmed as real. So you'll see "real" in there.

7 Q. Mr. Duval, could you just scroll up and show that there --
8 on this tab.

9 Mr. Bahun, would you ever see on a spreadsheet like
10 this, this column ever have anything other than "real"?
16:58:06

11 A. No.

12 Q. And why is that?

13 A. Because this data set is for files that were contained in
14 the notices sent to Cox. And no notice would have been sent on
15 a file that wasn't identified as "real."

16 Q. And "real" meaning it was confirmed as what?

17 A. It was a confirmed infringing copy of the song.

18 Q. Okay. Sorry. I got us off the titles. There you go.
19 Can you continue on E, please.

16:58:43 20 A. Sure. So then you have First File Name. That's the name
21 of the individual song the first time we saw it.

22 The next is File Size --

23 Q. Can I just stop on that First File Name?

24 A. Oh, I'm sorry. Yeah.

25 Q. Is that first file name generated by Audible Magic?

1 A. No.

2 Q. Who generates that first file name?

3 A. It's a value that we capture when we find the file. So
4 this is the actual name of the file that we found when we did
5 the search.

6 Q. So the peer potentially named it or got it from somebody
7 else who named it?

8 A. Correct.

9 Q. Okay. Keep going, please.

16:59:17 10 A. So then column F is File Size. This is the file size in
11 bytes of the individual song you see listed in each row.

12 Q. Next.

13 A. The next is the SHA-1 Hash Value. So we calculate the
14 SHA-1 hash of each individual song file contained here.

15 Q. Okay. Next.

16 A. The next is First Found. So this is the first date and
17 timestamp when we saw this file.

18 Q. Okay. Next.

19 A. The next is the Torrent Size. So this is -- again, in
16:59:55 20 bytes, but it's actually the file of the full collection of
21 songs in a given torrent.

22 Q. So why would the -- it looks like that the first, I don't
23 know, seven of them or so have the same torrent size. Why is
24 that?

25 A. So because these were all -- all of these songs were

1 bundled together in a single torrent.

2 So for purposes of displaying the data in this
3 spreadsheet, each row represents an individual song, but this
4 whole group was part of one torrent that you could download on
5 BitTorrent.

6 Q. So all of these Black Sabbath recordings would have been
7 in a single torrent?

8 A. Yes.

9 Q. Okay. Next column, please.

17:00:39 10 A. Next is the Torrent Name. So this is the name of the
11 torrent file that would allow the user to download the content.

12 Q. Now, that again -- is that generated by Audible Magic?

13 A. No. That's a value that we capture when we collect it.

14 Q. When you say "we capture it," it's not created by
15 MarkMonitor, is it?

16 A. Not created, no. It's an existing name of a file when we
17 discover it on BitTorrent.

18 Q. Is it only as reliable as the user who named it?

19 A. Yes.

17:01:08 20 Q. Okay. Next column.

21 A. The next is -- actually the next four are values that we
22 capture from Audible Magic. Audible Magic provides these to
23 us. So the first is the Audible Magic info ID, which is a
24 unique identifier. And then they give us artist, track, and
25 album.

1 So these are kind of what they have confirmed the
2 file as being.

3 Q. Now, for the recordings on this spreadsheet, listed on
4 this spreadsheet, did MarkMonitor -- does MarkMonitor have
5 copies of them?

6 A. Yes, we have, I believe, most of the songs that are in
7 this spreadsheet, they're -- we have copies of the songs, yeah.

8 Q. And were those produced in this case?

9 A. Yes.

17:02:01 10 Q. Your Honor -- and how -- just how were they produced?

11 A. So we provided a drive, a hard drive containing all of the
12 music files related, yeah.

13 MR. OPPENHEIM: Actually, can we open -- which is the
14 directory of the hard drive? 16, I think 16 is in. So publish
15 PX-16, please.

16 THE COURT: Is that in? Is that already admitted?

17 MR. OPPENHEIM: I thought it was if I -- yes? Yes.

18 THE COURT: Okay.

19 MR. OPPENHEIM: I believe it's in.

17:02:42 20 MR. BRODY: The directory is in, yes.

21 MR. OPPENHEIM: Is this it? I am sorry. I am having
22 trouble seeing it.

23 BY MR. OPPENHEIM: (Continuing)

24 Q. Do you recognize this?

25 A. Yes.

1 Q. And can you describe what this is.

2 A. So this is another Excel file that we provided that
3 details the -- all of the song files that we provided on the
4 drive.

5 Q. And do these song files correlate by hash to the song
6 files in PX 11 that we were just looking at?

7 A. Yes.

8 MR. OPPENHEIM: So, Your Honor, we would like to move
9 into evidence PX 39, the hard drive that contains the
10 infringing audio files?

11 THE COURT: Any objection?

12 MR. BRODY: May we approach, Your Honor. Yes, there
13 is an objection.

14 THE COURT: All right. Yes, come on.

15 NOTE: A sidebar discussion is had between the Court
16 and counsel out of the hearing of the jury as follows:

17 AT SIDEBAR

18 THE COURT: Yes, sir.

19 MR. BRODY: The concern is this. The testimony while
17:04:07 20 Ms. Frederiksen-Cross was on the stand was that the hard drive
21 contains -- I think it's four files from Ares and zero files
22 from Gnutella, and that those are 40 percent of the total
23 notices.

24 So the hard drive, if the hard drive is being offered
25 as a complete set of everything that was downloaded, it

1 manifestly is not.

2 MR. OPPENHEIM: So first off, it's apples and oranges
3 that he is confusing notice data with the infringing files.

4 So -- and by the way, Ms. Frederiksen-Cross isn't the
5 one sponsoring this.

6 But having said that, let me -- right. What happens
7 here is -- and I have explained this, apparently not well
8 enough -- that Gnutella and BitTorrent can use the same
9 infringing file.

17:05:10 10 And so, you can have an infringing file that is in a
11 BitTorrent folder that is used for infringement on -- excuse
12 me, an infringing file in the BitTorrent folder that can be
13 used on Gnutella.

14 And so, you can then find infringements on Gnutella
15 and send notices, which would then lead to having notices for
16 Gnutella.

17 If Mr. Brody wants to cross-examine on this issue, he
18 is free to. But there is no issue of the reliability of this
19 evidence.

17:05:40 20 THE COURT: So he can identify what's on this hard
21 drive?

22 MR. OPPENHEIM: Yes.

23 THE COURT: He has reviewed it?

24 MR. OPPENHEIM: We are going to open it, we are going
25 to look at it, may even listen to a song.

1 THE COURT: It may be incomplete. And then you can
2 go into that. But I don't see why that --

3 MR. BRODY: I think it's a question of what it is
4 being offered for, Your Honor. I mean, it is a hard drive. It
5 has got songs on it. I am not disputing that.

6 THE COURT: Yeah.

7 MR. BRODY: If it is being offered -- the
8 representation is that this is a complete set of what they
9 downloaded. It's not.

17:06:11 10 THE COURT: Okay.

11 MR. BRODY: And I think the evidence has been
12 explicit on that.

13 MR. OPPENHEIM: So, he said it was infringing files
14 that correlate to files in -- on the spreadsheet.

15 THE COURT: Well, so it doesn't include all of what's
16 on 16?

17 MR. OPPENHEIM: It's both over and under exclusive
18 because there were a lot of works that we didn't sue on.
19 Right? And there were --

17:06:38 20 THE COURT: Well, the concern is that the jury is not
21 being told what's on 11 and whether it's the same that's on 16.

22 And so, you need to clear that up if it's separate,
23 if you can -- if you can identify the reliability of the
24 information that's on the hard drive. Right?

25 MR. OPPENHEIM: So Mr. Brody is free to cross-examine

1 and say, you don't have everything, or you have at too much,
2 but that is entirely up to him.

3 THE COURT: He doesn't want you to represent on
4 direct examination that it contains everything.

5 MR. OPPENHEIM: I don't believe I have.

6 THE COURT: I know you haven't so far.

7 MR. OPPENHEIM: Okay.

8 MR. ELKIN: Your Honor, just one point. One issue
9 that we have with regard to the hard drive is that there hasn't
10 been any evidence that anyone at MarkMonitor has actually
11 listened to what it is.

12 There has been no foundation that Mr. Bahun has even
13 listened to what it is being offered for. I think there is a
14 foundational issue that I did address at summary judgment that
15 I don't think this testimony has overcome.

16 MR. OPPENHEIM: Every one of the files went through
17 Audible Magic, which did essentially the equivalent of a
18 digital listening. And Mr. McMullan testified that he listened
19 to a sample of them. And other witnesses -- as did -- excuse
20 me -- Barbara Frederiksen-Cross said she did. So did
21 Mr. Kokakis.

22 So that is simply not accurate.

23 MR. BRODY: At the same time, during
24 Ms. Frederiksen-Cross' examination, we saw examples where the
25 files that were identified in 16, the Audible Magic

1 spreadsheet, didn't match what was on that spreadsheet.

2 So, you know, it's --

3 THE COURT: Your exception is noted. I am going to
4 let it in. You clear up the fact that it -- what it is and
5 what -- where it came from. And I think that's sufficient.

6 All right. Your exceptions are noted.

7 MR. ELKIN: Thank you.

8 NOTE: The sidebar discussion is concluded; whereupon
9 the case continues before the jury as follows:

17:09:23 10 BEFORE THE JURY

11 THE COURT: All right. That exhibit will be
12 received.

13 And please proceed.

14 MR. OPPENHEIM: Mr. Duval, can you bring up PX 39. I
15 will apologize in advance, it's not a document. It's a big
16 hard drive of music files.

17 THE COURT: Okay.

18 BY MR. OPPENHEIM: (Continuing)

19 Q. Do you recognize this directory, Mr. Bahun?

17:09:48 20 A. Yes.

21 Q. And do you know where this -- and do you know what's
22 within this directory?

23 A. Yes. So there is -- we've organized it by a series of
24 folders. And inside of each folder are the song files that
25 were downloaded from the corresponding peer-to-peer networks.

1 Q. And was this produced by MarkMonitor?

2 A. Yes.

3 Q. Can we -- so it looks like that there is one folder that
4 is labeled Ares; is that right?

5 A. Correct.

6 Q. Mr. Duval, could you just open that, please.

7 Can you describe what's in this file, please, or this
8 folder.

9 A. Yes. For Ares, there were four audio files that we
10 downloaded and placed on the drive. So, yeah, there's -- you
11 see four separate MP3 files here.

12 Q. Okay. Can we go back to the main directory, Mr. Duval.

13 And there are a lot of BitTorrent ones, just like
14 No. 7, let's go down.

15 And so, what is this we are seeing right now,
16 Mr. Bahun?

17 A. Yes. So BitTorrent functions a little bit differently.
18 You will see some differences by peer-to-peer network. And so,
19 for BitTorrent, within each folder there is an individual
20 folder named what the hash value is for the infringing file.

21 So if you open one of those, inside you will see, in
22 this case, two files. There could be multiple though. If you
23 have a -- if you have a full album or something like that, you
24 may see a whole -- a larger set of files.

25 In this particular case, you see the MP3 file and

1 then -- excuse me -- the .torrent file. So we preserved both
2 in this set of data.

3 Q. Would you just play ten seconds of that file.

4 NOTE: A music excerpt is played.

5 BY MR. OPPENHEIM: (Continuing)

6 Q. Do you recognize that recording, Mr. Bahun?

7 A. Yes.

8 Q. Do you have an understanding as to how many -- I'm sorry,
9 let's go back to the first directory. Thank you. Go down to
10 the bottom three.

17:12:35

11 What are those -- what are those called, Mr. Bahun?

12 A. So those three are related to downloads we did on -- from
13 the P2P network eDonkey.

14 Q. Can you just open one of those, please.

15 And can you describe what this is, Mr. Bahun.

16 A. Yes. Again, based on the way this peer-to-peer network
17 works, or functions, you just see a collection of all of the
18 individual songs that we downloaded.

19 Q. Okay. Can we go back to the first directory, please.

17:13:09

20 I notice that one of the peer-to-peer networks isn't
21 here; is that correct?

22 A. Yes.

23 Q. And which one is missing?

24 A. Gnutella.

25 Q. And why is it not here?

1 A. At the time when we loaded these songs onto the drive,
2 there are a lot of songs that we can find that exist on
3 multiple networks. So I believe that there was just overlap of
4 a lot of those songs.

5 So the ones from Gnutella probably were contained in,
6 most likely because of the size here, probably the BitTorrent
7 folders.

8 Q. Do you have a rough understanding of how many song files
9 there are in total on this hard drive?

17:13:50 10 A. I don't have the exact number, but I think there is in
11 excess of 40,000 on here.

12 Q. We can pull that down, please.

13 Can we publish PX 16, please.

14 Do you recognize this document, Mr. Bahun?

15 A. Yes. I think -- is this -- this is the same document as
16 we had up before; is that right?

17 Q. I think this should be PX 16; is that right? Okay.

18 No, this is a different document. I think the one
19 before we had the tabs. This says something else.

17:14:47 20 We put this one up before? Oh, I apologize. You are
21 right, apparently. Let's just move on then. I think everyone
22 will be happy with that.

23 Let's turn -- can we please pull up PX 33.

24 Do you recognize this directory?

25 A. I believe so, but could you open one of the folders?

1 Q. Sure.

2 A. Yes.

3 Q. And what do you recognize this directory to be?

4 A. So these are what we call evidence packages. So each of
5 these zipped files contained within the folders in this
6 directory each individual one represents an evidence package
7 related to a unique infringement.

8 Q. Okay. Can we, I guess we -- let's just go back for a
9 minute to the last directory, the higher level directory, if we
10 can.

17:15:50

11 Okay. And how does this -- how is this directory
12 organized?

13 A. So we created folders for -- you can see they are named
14 year and month. And just organized, all of the zip -- the
15 evidence packages, the zip files within each of those folders.

16 Q. And so, now let's open one, please.

17 Okay. And they are zip files. So do you have to
18 unzip them to open them?

19 A. Yes.

17:16:21

20 Q. Okay. And I think Mr. Duval is doing that. Okay.

21 Is this what you typically see when you unzip them?

22 A. Yes. So there are six log files within each of the
23 packages, yes.

24 Q. Okay. And can we open the first one, please, Mr. Duval?

25 And can you just describe what this is, please,

1 Mr. Bahun.

2 A. Yeah. I think first it might be helpful to mention
3 generally all of these log files are in a format that we call
4 XML.

5 So you will see at the top of all the log files kind
6 of the blue -- so the format might look a little bit different
7 than kind of a typical txt document.

8 But for this particular one, the activity log, you
9 can see this one captures the individual steps of the -- of the
10 activity in the collection of this case.

11 So if you look at the first, under the section where
12 it says Activities, you see Activities Timestamp.

13 So it provides a date and timestamp, and then it
14 lists what activity was conducted at that date and time. So
15 shared files list connecting to the peer and then down the
16 list.

17 Do you want me to --

18 Q. Yeah, just walk through each step quickly, though, because
19 I think everybody is --

17:17:58 20 A. Okay. So we -- you can see we connect to the peer, and
21 then the peer connection is closed.

22 Then we connect -- in this particular case, we
23 connect to the peer again. It notes where we send the client
24 handshake.

25 Again, the peer connection is closed.

1 And then we connect to the peer again. Do another
2 handshake. We receive the peer's handshake at that time.
3 So -- and then you will see where it notes that the connection
4 is fully established.

5 So the handshake has been completed, we're connected
6 to the peer, communicating with them.

7 And then you'll see "download stopped" and "peer
8 connection closed."

9 And then the last step of the process is to conduct
17:18:42 10 what's called a trace route.

11 Q. Mr. Bahun, why did -- in this example, did you connect
12 three times?

13 A. It's hard to say why. I mean, this can occur. We -- but
14 it shows that we connected. The peer connection was closed.
15 We connected again. And eventually they did complete the
16 handshake. And you can see where the connection was fully
17 established.

18 Q. So it wasn't sufficient for MarkMonitor the first
19 connection because the handshake wasn't completed; is that
17:19:21 20 correct?

21 A. Correct, correct.

22 Q. So MarkMonitor will continue to try to connect until the
23 handshake is done?

24 A. Correct.

25 Q. Okay. So let's go out of this. Go to the next log,

1 please.

2 And can you describe this one, please.

3 A. Sure. So is this the communication log. And this
4 captures the kind of relevant steps in the -- in a little more
5 detail in the communication process.

6 So, again, looking to the section just where it's
7 labeled Communications, you can show that it captures the
8 direction of the communication, the timestamp, some of the
9 information related to the handshake. So you can see the peer
10 ID.

17:20:08

11 And it's recorded both directions, so in and out. So
12 the messages that are being sent to us by the peer and the
13 messages that we're sending back to that peer are captured
14 here.

15 And then --

16 Q. Okay. Can we go to the next log, please.

17 And can you describe this one, please.

18 A. Yes. So this log we call the content info log. This is
19 related to the specific hash, the file that's being distributed
20 on the peer-to-peer network.

17:20:40

21 So you can see here under the Content List, it shows
22 a series -- or a few different pieces of information. The
23 content shared, that's the size in bytes that the user is
24 distributing, the -- it says: Verified, downloaded, the size
25 again in bytes. And then you've got the name of the MP3 file,

1 in this case, Jake Owen, "The One That Got Away."

2 Q. And why is -- why do you have both the content shared
3 number and the size number?

4 A. So those pieces of information allow us to calculate how
5 much of the file this individual peer is distributing in the
6 swarm.

7 Q. And in this instance, how much of the file are they
8 distributing?

9 A. In this instance they're distributing 100 percent of the
10 file.

11 Q. Okay. Let's go to the next log file, please.

12 A. So then you have the file list. This can vary a little
13 bit depending upon the peer-to-peer network because, again,
14 they function a little differently.

15 In the case of files where -- or, yeah, like a
16 torrent that had multiple files, what you would see here is a
17 list of all the individual songs. In this particular example,
18 there was one MP3. So it just lists that single song that is
19 related to this case.

17:22:09 20 Q. Okay. Can we go to the next log file, please.

21 A. So the Investigation Info is more specific to information
22 that identifies this peer. What I mean by that is you can see
23 the Initiated Date and Timestamp, the Completed Date and
24 Timestamp.

25 So that's -- you know, the initiated is when we first

1 connected to the peer. Completed is when we finished and
2 disconnected.

3 It lists the protocol, in this case, BitTorrent.
4 Their IP address. The port that they're using to communicate.
5 And a series of other information. I don't know if you want me
6 to walk through everyone. But essentially it's information
7 that identifies the ISP and kind of some general location
8 information based off of the IP address.

9 Q. And who was the ISP listed here?

17:23:06 10 A. Cox Communications.

11 Q. Okay. Can we go to the next log file, please.

12 A. And then the last one is the trace route. So this is the
13 last step in the process for us. We do a trace route. It's --

14 Q. Can you explain what a trace route is to the jury, please.

15 A. Sure. It's essentially a way to map from our system or
16 our computer, how the connection flows across the Internet to
17 where the peer is located.

18 So you can see that it takes a series of hops, and we
19 record information about each of the hops that it takes to get
17:23:45 20 from our agent or our server, in this case, where the scanning
21 is occurring, all the way down through to where the peer is.

22 Q. We can close that out, please.

23 Did we cover all the -- okay.

24 And are you aware that some of the evidence packages,
25 for purposes of this case, were not produced?

1 A. Yes.

2 Q. And can you explain that?

3 A. Yeah. So when we went to produce the evidence packs
4 related to each of the notices, those were stored in archives.
5 This data goes back to 2012, I believe.

6 And so, when we went to pull that information from
7 the archives, we did have an event occur with our archives
8 where we had a drive in our archive setup that failed. This
9 was sometime ago.

17:24:46 10 And our engineering team and IT staff did everything
11 they could to recover as much as possible, but there was a
12 portion of data from that failed drive that was related to this
13 case and wasn't recoverable.

14 There was also other data, too. It wasn't just
15 related to the RIAA in this case. But we recovered as much as
16 we could. But there is some missing.

17 Q. Are you aware of kind of what time period that data came
18 from?

19 A. Yeah. I was just going to say, it was one of the oldest
17:25:17 20 of the drives or one of the older drives. So I think the
21 overwhelming majority of the evidence packages we lost from
22 that occurrence were in the 2012 time period.

23 Q. But not from 2013/'14?

24 A. Correct. I don't recall how many there may have been from
25 that time period. I think it was only a very small number, if

1 any. But the majority of the ones we were unable to produce
2 were from 2012.

3 Q. Can we, please, look at PX-17. Publish that, please.

4 It may be -- unless you recognize it from this, I
5 will ask Mr. Duval to open one of these folders.

6 Do you recognize this directory?

7 A. Yeah, if you could open one --

8 Q. Open one of the folders?

9 A. Yeah.

17:26:24 10 Q. And maybe open one of those.

11 A. Yes. Okay. Yes, I recognize it.

12 Q. What is this exhibit?

13 A. So these are copies of all of the notices -- excuse me,
14 all of the notices that were sent to Cox Communications.

15 Q. And do you know roughly the time frame for the notices
16 that were sent in this directory?

17 A. Yes. I believe it -- excuse me, I believe it was January
18 of 2012 through March of 2015.

19 Q. And I want to look at just one of these notices, please.

17:27:08 20 And we have one up. Great. Can we zoom in on just the top
21 piece there that says -- above: Begin PGP sign message.

22 Can you just describe what this portion of the notice
23 is.

24 A. Yeah, I'm sorry. You said the top section here?

25 Q. Yeah, just the top section.

1 A. So the -- yeah. The way we store these, the top section
2 that kind of is above the: Begin PGP sign message where the
3 dashes are, is actually the message header. So this is just --
4 we store the information about the message when it was sent.
5 So --

6 Q. And then below that, the -- with: Dear sir.

7 A. Yeah, so that's --

8 Q. Sir or madam. Sorry.

9 A. Yeah, that portion is what we call the body of the notice.
10 It's the actual e-mail that was sent to Cox.

17:28:02

11 Q. And who would have drafted that language?

12 A. This would have been an approved notice template that we
13 got from the RIAA.

14 Q. Okay. And can we just scroll down a little, please.

15 So this is the notice that would have gone to Cox?

16 A. Yes.

17 Q. Okay. Keep scrolling, please. Okay.

18 And can you go to the bottom part of the notice,
19 please.

17:28:36

20 All right. From List of Infringing Content down, do
21 you see that? Can you describe what that is, please.

22 A. Yes. In between kind of the rows of dashes there, that's
23 where we list out the infringement or the infringing content
24 that we identified related to this specific notice.

25 Q. So it says: Infringing work, "No Love." What is that?

1 A. That would be the -- or infringing work -- "No Love" is
2 the name of the song in this case.

3 Q. Okay. And what is File Name?

4 A. The file name is the actual name of the file that we found
5 on the peer-to-peer network.

6 Q. Okay. And what is First Found and Last Found? What does
7 that mean, excuse me?

8 A. The first found and last found are specific timestamps --
9 previously in the logs, I think it was called initiated and
10 completed. But these are essentially start and stop time
11 periods of when we saw the peer distributing in this particular
12 infringement.

13 It's meant to give the ISP a marker so that they can
14 use it to look up the subscriber that was using this IP during
15 that window of time.

16 Q. All right. I think we know what File Size is.

17 What is the IP Address?

18 A. So this is the IP address. And just below it the port
19 specific to the peer that we observed infringing here.

17:29:39 20 Q. And the network in this case?

21 A. Gnutella.

22 Q. So the information contained within this, where does that
23 come from?

24 A. This comes directly from the log files that we went
25 through. So this is the -- essentially the infringement

1 record.

2 So it's stored within the log files, and also in kind
3 of some other various parts of our database, all part of what
4 we call the infringement record.

5 Q. You testified earlier that a hard drive -- archived hard
6 drive crashed and you lost some of the evidence files.

7 Did that impact the notices that you had?

8 A. No. I believe we had all of the notices preserved and
9 were able to produce those.

17:30:57 10 Q. So even though you may have lost some of the evidence
11 packages for certain infringement notices, you did have the
12 information from those evidence packages in these notices; is
13 that correct?

14 A. Yes.

15 Q. Can we pull up PX-14, please.

16 Do you recognize what this is, Mr. Bahun?

17 A. Yes.

18 Q. What is it?

19 A. So this is a document -- or again, spreadsheet that we
17:31:54 20 provided containing records of all of the notices on some of
21 the corresponding infringement data related to those notices.

22 Q. Mr. Duval, could you just kind of scroll down.

23 While Mr. Duval is scrolling slowly, if he were to
24 come to the end, do you have any sense of how high the number
25 would be, Mr. Bahun?

1 A. Yes. I think in this, I think we had 284,000. Yeah,
2 280,000 -- or, excuse me, 284,444, not counting the header
3 column or header row.

4 Q. And where were those 284,000 notices sent, infringement
5 notices sent?

6 A. They were sent to Cox Communications at the abuse@cox.net
7 address you see listed in column D.

8 Q. And, Mr. Duval, can you now kind of just scroll to the
9 right so the jury can see the rest of the spreadsheet. I'll
10 resist going through every line.

11 Can we open PX-11 again, please.

12 Bear with me. I'm going to try to manipulate my way
13 through several of these with respect to one issue that was
14 raised earlier.

15 Can you go to row 118, please. Oh, I'm sorry, you're
16 on the BitTorrent tab. Can you go to the eDonkey tab, please.
17 And now go to row 118? Okay.

18 And, Mr. Bahun, what is -- is there a way that we can
19 see the column headings while you do this? No? Okay.

20 So maybe you -- if we need to, we'll scroll up.

21 What is this -- can you describe what this line is on
22 this spreadsheet?

23 A. Yes. This row would represent a specific file that we
24 downloaded and verified.

25 Q. And is the -- is column B what your search terms were?

1 A. Yes.

2 Q. Wait a minute. Hold on. He is trying to do what I asked
3 him to do. Apologies. There we go.

4 Now, go to 118. Okay. Now this will work a little
5 better.

6 So 118, Mr. Bahun, so what -- what is Lady Gaga
7 "Poker Face" there? Was that what you searched for?

8 A. Yeah.

9 Q. Okay. And then it -- what does it mean that it says:
10 Real?

11 A. When we processed it against Audible Magic, this file
12 matched a referenced fingerprint in their database.

13 Q. And if we scroll to the right, will we see what that was?

14 A. Yep, yes. If you go all the way to the right, you should
15 see.

16 Q. Maybe highlight -- okay. And what did it match as?

17 A. Lady Gaga, "Poker Face."

18 Q. Okay. Now, go back to the left, if you would, Mr. Duval.

19 And do you see where it says that first file name
20 column?

21 A. Yeah.

22 Q. What does it say there?

23 A. Taylor Swift, "Love Story."

24 Q. Do you understand why there might be a difference here
25 between it saying Taylor Swift and it being Lady Gaga?

1 A. Yeah. Yeah. We do see files on the networks that are
2 mislabeled at times. This could be called anything. You know,
3 in this particular case, the file was called or was mislabeled
4 as Taylor Swift, "Love Story" in the file name. But when we
5 downloaded it and processed it, it was positively matched to
6 the song "Poker Face" by Lady Gaga.

7 Q. Okay. Mr. Duval, PX 39, please. The hard drive that we
8 looked at earlier.

9 Okay. And we were on eDonkey tab. So let's look in
10 eDonkey here, part one, please. And can you look for the one
11 that has a file named Taylor Swift, "Love Story."

12 A. Yes.

13 Q. Is that -- would that correlate back to what we were just
14 looking at on the other spreadsheet, Mr. Bahun?

15 A. It appears to. Could you switch back to the other file
16 just for a second?

17 Yes, it does correspond to this file.

18 Q. And how do you know?

19 A. I was looking at the hash value in the file name. So we
17:38:04 20 append that here. We add the hash value as the unique
21 identifier. So I am able to -- yeah, to determine that based
22 on that.

23 Q. Okay. So let's go back to the hard drive, please. And
24 Mr. Duval, let's listen and see whether it is Taylor Swift or
25 Lady Gaga.

1 NOTE: A music excerpt is played.

2 BY MR. OPPENHEIM: (Continuing)

3 Q. Mr. Bahun, do you recognize that recording?

4 A. Yes, I do.

5 Q. You recognize that recording?

6 A. Yes.

7 Q. Now, was that Taylor Swift or Lady Gaga?

8 A. That was -- that was Lady Gaga.

9 Q. Let's turn to PX 12, please. I am sorry.

10 Did you -- just the first page of it.

11 So we have a stipulation on the first page of PX 12.

12 THE COURT: All right.

13 MR. OPPENHEIM: So if you could publish just the
14 first page, please, Mr. Duval.

15 BY MR. OPPENHEIM: (Continuing)

16 Q. Do you recognize this document, Mr. Bahun?

17 A. Yes.

18 Q. Can you describe what it is?

19 A. This is a summary of the notices that we sent to Cox
17:39:51 20 between 2012 and 2015.

21 Q. And did you assist in the preparation of this summary?

22 A. Yes.

23 Q. And can you describe the difference between the column
24 that says Full Data Set and the column that says February 1,
25 2013, to November 26, 2014?

1 A. Sure. So the full data set is -- we provided data from
2 January 1 of 2012 through March 31 of 2015.

3 So the first column -- or the full data set column
4 there represents a summary of the numbers involved with those
5 notices.

6 And then the other one is kind of a subset, it's
7 trimmed down. And basically within the time frame specified,
8 those are the corresponding numbers.

9 Q. And you said the time frame specified. Do you understand
10 that that's the claim period of this case?

11 A. Yes.

12 Q. Okay. And can you just describe the notices sent in the
13 full data set.

14 A. Yes. So during -- or in the full data set, we had 284,444
15 notices sent.

16 Q. To whom?

17 A. To Cox.

18 Q. And what kind of notices?

19 A. Infringement notices.

17:41:09 20 Q. And then within the claim period, how much infringement
21 notices were sent to Cox?

22 A. 163,148.

23 Q. And all of them came from the antipiracy2@riaa e-mail
24 address?

25 A. Yes.

1 Q. And where did all of them go to?

2 A. They were all sent to abuse@cox.net.

3 MR. OPPENHEIM: No further questions. We will pass
4 the witness.

5 THE COURT: All right. I think that we will end the
6 testimony for tonight now and go to cross-examination tomorrow
7 morning.

8 So thank you all for your patience. It was a long
9 day.

17:41:51 10 On Monday afternoon, when I initially instructed you,
11 I talked about infringement and using the word "infringement"
12 and "infringement notices." And you have seen the words. And
13 we have talked about it a lot during the course of the trial.

14 I just wanted to remind you that the ultimate
15 decision on whether Cox is liable for infringement is yours.
16 It's an issue of -- ultimately an issue of fact. And what you
17 have been hearing is evidence in support of that or non-support
18 of that.

19 So I just want you to keep that in mind. I know it
17:42:28 20 was just a day-and-a-half ago, but I am sure it seems like
21 quite a bit longer than that.

22 So have a good evening. Again, no research, no
23 investigation, please don't speak to anybody about the case.
24 Thank you.

25 We will see you tomorrow at 9 o'clock.

1 NOTE: At this point the jury leaves the courtroom;
2 whereupon the case continues as follows:

3 JURY OUT

4 THE COURT: All right. Anything before we adjourn?

5 MR. ELKIN: Just very briefly, Your Honor. I think
6 tomorrow, time permitting, there may be two Cox witnesses that
7 will be called to support plaintiffs' case in chief. As I have
8 notified both the Court and counsel, I intend to sort of on my
9 cross, go outside of cross to take them in our case.

17:43:45 10 I was wondering whether the Court would actually let
11 the jury know what's going on so that when it comes time to our
12 case and we have no witnesses, they will know what is
13 happening.

14 THE COURT: I am happy to do that. I think that's
15 proper.

16 And you are in the middle of your testimony, so
17 please don't discuss the testimony that you have given so far
18 with anybody tonight before you come back tomorrow on the
19 stand. You may discuss other matters, testimony that we
17:44:15 20 haven't discussed so far, but not any of the testimony you have
21 given. All right?

22 THE WITNESS: Yes.

23 THE COURT: Okay. All right. Yes, sir.

24 MR. GOULD: Should we let Mr. Bahun go while we take
25 up other issues?

1 THE COURT: All right. You are excused until
2 9 o'clock tomorrow morning.

3 NOTE: The witness stood down.

4 MR. OPPENHEIM: Your Honor, an issue was raised in
5 Mr. Elkin's opening where he flagged -- or flagged is not the
6 right word -- foreshadowed what Mr. Carothers was going to say
7 with respect to the decision to throw away the first notice --
8 or, excuse me, ignore the first notice. And we would like to
9 offer, if the Court will accept it, a bench memo on the issue.

17:45:12 10 Mr. Carothers, in his deposition, denied that any
11 such study was done. And in discovery we requested every
12 possible way to get that kind of information. And nothing was
13 produced. And we don't believe that Mr. Carothers should now
14 be allowed to get up and testify to something for which there
15 is no foundation and for which we've asked and been told it
16 doesn't exist.

17 MR. ELKIN: Your Honor, that's just -- I haven't seen
18 the memo, but we are happy, obviously, to respond to it.

19 Mr. Carothers testified in his deposition not about
17:45:45 20 studies, but that he who had developed CATS, and he who had
21 been the system administer for a long time, observed himself
22 patterns. And there was no -- it's like the same thing, you
23 know, are there studies?

24 If you are observing and working and living and
25 breathing this each and every day, he is going to testify to

1 the same thing that he has been -- it has been his experience
2 based upon his examination of what happened at the time.

3 So he didn't just invent "hold for more" out of thin
4 air. It was based on his experience. And he will provide the
5 background for that, and they can cross-examine him on it.

6 THE COURT: So is that --

7 MR. OPPENHEIM: Your Honor -- I am sorry.

8 THE COURT: So is that consistent or inconsistent
9 with his testimony from BMG? Do they correlate at all?

10 17:46:40 I am just wondering whether this was ground that was
11 covered back with the BMG case?

12 MR. OPPENHEIM: I don't believe so, but we can check
13 overnight, Your Honor. And what Mr. Elkin just represented was
14 Mr. Carothers' testimony is not my recollection when I took his
15 deposition, that he said anything of the sort.

16 We are citing in this bench memo the snippet of
17 testimony that we think is relevant, but we are happy to have
18 them produce additional testimony --

19 THE COURT: Yeah, send me the deposition and I will
20 17:47:16 look at it tonight.

21 MR. OPPENHEIM: Can I offer the bench memo as well?

22 THE COURT: Yes, you may.

23 MR. ELKIN: I believe, Your Honor, he testified at
24 BMG with regard to this very issue. I don't know what's in
25 this bench memo. We will look at it and respond.

1 Thank you.

2 THE COURT: All right. And, you know, I'm here
3 early, so if you want -- if you want to discuss this at 8:45
4 because it is going to be an issue tomorrow, let's come back in
5 at 8:45 and talk about it then.

6 And will that give you an opportunity to respond? I
7 know you have the nightshift going, but let's -- and if you
8 have to do it orally with exhibits, I will accept that as well.
9 We are getting this at the last minute.

17:48:08 10 And so do the best you can to at least collect the
11 information you want to put forth, and I will look at it.

12 MR. ELKIN: Thank you, Your Honor. I appreciate
13 that.

14 THE COURT: Yes, sir. All right. I have a 1:15 plea
15 tomorrow?

16 COURT SECURITY OFFICER: 1:10.

17 THE COURT: 1:10. So we will adjourn at 1 and go
18 until 2, but you are going to have to clean up the first tables
19 a little bit for another case.

17:48:32 20 All right. Well, thank you. We'll see you at 8:45,
21 then, tomorrow. We're in recess.

22 NOTE: The December 4, 2019, portion of the case is
23 concluded.

24 -----
25

CERTIFICATE OF COURT REPORTERS

We certify that the foregoing is a true and accurate transcription of our stenographic notes.

/s/ Norman B. Linnell
Norman B. Linnell, RPR, CM, VCE, FCRR

/s/ Anneliese J. Thomson
Anneliese J. Thomson, RDR, CRR

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF VIRGINIA
Alexandria Division

-----: :
SONY MUSIC ENTERTAINMENT, et al., :
Plaintiffs, :
-vs- : Case No. 1:18-cv-950
COX COMMUNICATIONS, INC., et al., :
Defendants. :
-----:

VOLUME 4 (A.M. Portion)

TRIAL TRANSCRIPT

December 5, 2019

Before: Liam O'Grady, USDC Judge

And a Jury

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COURT'S RULINGS/JURY INSTRUCTIONS

1 NOTE: The December 5, 2019, portion of the case
2 begins in the absence of the jury as follows:

3 JURY OUT

4 THE COURT: All right. Good morning.

5 Mr. Oppenheim, you wanted to address your motion. Go
6 ahead.

7 MR. OPPENHEIM: Good morning, Your Honor. I don't
8 believe Mr. Carothers is going to come up for a little while
9 yet. So if the jurors get here and we want to go, we can go
10 forward --

08:55:02

11 THE COURT: Well, they should all --

12 MR. OPPENHEIM: -- or we can deal with it right now,
13 that's fine.

14 THE COURT: Let's deal with it right now, yeah.

15 MR. OPPENHEIM: So I did review the BMG testimony
16 last night based on the question that Your Honor asked, both in
17 the deposition and in the trial, of Mr. Carothers. He did not
18 testify to having done any study. He did testify just that he
19 knew inherently.

08:55:28

20 We're not seeking to preclude him from saying
21 something to the effect of, I just happen to know based on
22 knowing the data. That is what it is, and I have no issue with
23 that.

24 THE COURT: All right. Okay.

25 MR. OPPENHEIM: If, however, he wants to take the

1 stand and testify to this, and he's asked the question, did you
2 do a study or an analysis, I think the answer has to be "no"
3 because they didn't produce it and his testimony was that he
4 didn't.

5 So it hopefully narrows the issue a little bit as to
6 what may separate us.

7 THE COURT: Okay. Thank you.

8 All right. Mr. Elkin.

9 MR. ELKIN: Good morning, Your Honor.

08:56:07 10 THE COURT: Good morning.

11 MR. ELKIN: So I -- after spending a couple hours
12 with some witnesses, by midnight I did have a chance to review
13 as well the facts here and what happened.

14 THE COURT: You are the night team; is that right?

15 MR. ELKIN: I'm on the night team, Your Honor.

16 THE COURT: I suspected as much, yeah, with many of
17 your colleagues.

18 MR. ELKIN: I was not alone. In fact, I probably was
19 not the last to go to bed.

08:56:35 20 This issue, obviously, keys off of my opening
21 statement. And I was very -- I attempted to go verbatim or
22 substantially verbatim with Mr. Carothers' testimony at his
23 deposition.

24 And this issue, just by the way, isn't a new
25 revelation in terms of how the so-called Hold For More issue

1 surfaced. This happened in BMG. Mr. Allan had questioned
2 Mr. Carothers four-and-a-half years ago about this. There was
3 testimony. Mr. Allan went further than Mr. Oppenheim did and
4 actually asked Mr. Carothers in his 30(b)(6) deposition what
5 the basis was for his finding. And he testified to that. And
6 as Mr. Oppenheim just recounted, Mr. Carothers did testify with
7 regard to the issues before this Court at trial.

8 I have the excerpts from each of these examinations
9 that I can hand up to the Court that we did sort of --

08:57:54 10 THE COURT: Well, let's cut to the chase. He was
11 deposed. He said, I have two reasons for believing that the
12 first notice was unnecessary. One is, I don't think that the
13 notices are accurate and we didn't want to unreasonably burden
14 our customers.

15 And second is, it didn't make any difference in when
16 they complied.

17 And when asked about, you know, what's your
18 information about the notices being often in error, he said,
19 you know, essentially, I don't know, and -- but I did talk to
08:58:31 20 my -- that's my belief. And I also talked to my counsel a
21 couple days ago. And there was conversation about that.

22 And then he said, you know, and also, it didn't make
23 a difference. And he was asked, well, do you have a study that
24 supports that? And the answer was, no.

25 And so, what would you expect he would testify now?

1 And Mr. Oppenheim has just agreed that he -- based on his
2 experience as the security head or main person, he's able to
3 testify to his opinion about, you know, why he did certain
4 things.

5 MR. ELKIN: Well, it's beyond that, Your Honor. Let
6 me make a proffer.

7 THE COURT: Okay.

8 MR. ELKIN: He's going to testify that he had access
9 to CATS. He ran numerous queries. And he's going to take the
08:59:29 10 Court and the jury through exactly what he did. He ran queries
11 to -- this wasn't just something that came out of the thin air.
12 He had access to the database.

13 Now, he did not have -- he did not -- he's not like a
14 lawyer or, you know, someone who's preparing a formal report or
15 a study. But I don't think that Rule 602 goes that far.

16 One of the points, as Your Honor knows, that was
17 omitted in the brief that was submitted, it says: Evidence to
18 prove personal knowledge may consist of the witness' own
19 testimony.

09:00:10 20 He's going to take the court through the work that he
21 did to arrive at that conclusion. And if they want to come and
22 argue, hey, you know, this is so important, you should have had
23 a study, you should have done an analysis, and you shouldn't
24 believe him because, you know, this is so important, you should
25 have, you know, prepared some formal memo or something like

1 that, that's fair if they want to do that.

2 But that's not a basis to exclude his testimony under
3 Rule 602.

4 THE COURT: And was there, with Mr. Allan or any
5 prior time, testimony which supports what you believe his
6 testimony will be today?

7 MR. ELKIN: Yeah. Well, let me read this to you. I
8 have copies if you want to read them. It's really -- it's not
9 that extensive.

10 THE COURT: All right.

11 MR. ELKIN: It'll take you about 45 seconds.

12 THE COURT: Okay. Sure. I'm happy to read them.

13 MR. ELKIN: And let me just take Your Honor through
14 it quickly, if I may.

15 THE COURT: Yes, sir.

16 MR. ELKIN: So let's just start with -- we'll start
17 with Mike -- with Mr. Allan's 30(b)(6). This was on June 3,
18 2015. It's hard to believe that it's that long ago. So I'm
19 reading from page 39 of that transcript.

09:01:26 20 Question: Am I right that according to the current
21 policy, the company does not address the first notice of
22 infringement that it receives on a particular subscriber?

23 Line 12, the answer is: Yes.

24 Line 14, Mr. Allan asked: Why is that?

25 And if you skip to line 8 at page 40, he says: We

1 have seen little or no difference in repeat offense rates
2 between customers who receive a first complaint and subscribers
3 for whom no action is taken.

4 Question: And what do you base the last statement
5 on? Is there data to support that?

6 Line 18: There is.

7 Question on line 20: What is it? What does it
8 consist of?

9 Line 20: The Cox Abuse Tracking System has a record
09:02:17 10 of all of the notices that have been sent and the actions that
11 have been taken.

12 He doesn't go beyond that. And the trial, on
13 pages 15/14 of the BMG trial, line 9, question: Let's start
14 with hold for more. Can you explain what that is, please.

15 Answer on line 11: For the specific case of a
16 copyright infringement complaint, we don't take a customer
17 facing action on the first complaint. We create the ticket and
18 we store it, but we don't send the customer a warning on the
19 first complaint.

09:02:56 20 Question: Why is that?

21 And if you skip to line 21: We saw no statistical
22 difference between repeat complaint rates against customers who
23 did receive a warning versus those who did not receive a
24 warning.

25 And then finally in this case, the deposition,

1 30(b)(6) deposition, on page 146, lines 16 through 19: We
2 didn't find a statistical difference in repeat offense rates
3 between customers who did or did not receive the first notice.

4 And on page 147: Given that there wasn't a
5 statistical difference between repeat offense rates, we decided
6 to go with the hold for warning.

7 And then one of the things that was left out, I
8 think, of the brief that was submitted yesterday is on
9 page 150, lines 11 to 12: The fact that there was no
09:03:51 10 appreciable difference in effectiveness.

11 Now, no one has elicited from him, you know, what
12 specifically did you do, Mr. Carothers? And he's going to
13 testify exactly what he did. And counsel will have an
14 opportunity to cross-examine him and grill him on it.

15 THE COURT: Okay. Thank you.

16 MR. ELKIN: Thank you.

17 MR. OPPENHEIM: Your Honor, I have absolutely no
18 problem with him sticking to what he has said previously. But
19 what Mr. Elkin just described is going well beyond that.

09:04:23 20 If he's going to get up here and say, I ran numerous
21 queries, and he's going to try to show the jury queries run on
22 CATS data and to show some analysis that's created now for
23 which there is zero record after two depositions and trial
24 testimony, something entirely new, that is improper, Your
25 Honor. That should have been produced.

1 The CATS system has millions and millions of records.
2 There's no way he could have done this analysis without having
3 really queried, analyzed, run calculations. This is not easily
4 done.

5 If he wants to get up here and say, I looked at the
6 CATS data generally and this is what I knew, fine. If he's
7 going to go and say, I did queries and did an analysis, they
8 needed to produce that. They needed to testify to that.

9 THE COURT: Okay. Well, I mean, he was asked back in
09:05:23 10 2015, you know: What's your basis and what does it consist of?
11 And he says: That CATS has a record of all the notices that
12 have been sent and the actions that have been taken. And it
13 was not followed up in 2015. You specifically asked him about
14 whether he had a study. He said no.

15 I don't think that precludes him from testifying
16 given he's the -- you know, the head of the security section
17 and principal security architect.

18 And if you believe that in order to cultivate the
19 underlying information necessary to give a credible opinion
09:06:16 20 about it, then that's what you do, is you cross-examine him on
21 that.

22 I'm not going to preclude him from testifying about
23 it on this record. I don't find that he has boxed himself out
24 of providing that testimony. We'll see how it develops more
25 specifically.

1 But if Mr. Elkin is saying that he's going to walk
2 him through it, I think you should be on notice that that will
3 be in some detail. And I don't think he should be precluded.

4 I think it's -- is it credible? You know, the jury
5 will make that determination. Is it -- should it be precluded
6 at this stage? I don't believe so. But -- so your motion is
7 denied.

8 MR. OPPENHEIM: I understand, Your Honor.

9 THE COURT: All right.

09:06:57 10 MR. OPPENHEIM: May I ask that he be required to lay
11 the foundation before he provides any of this testimony so we
12 can see whether or not there is a basis for it first?

13 THE COURT: Yeah, let's -- you can make objection
14 like, you know, lack of foundation, and I'll rule on that the
15 some way.

16 MR. OPPENHEIM: Thank you, Your Honor.

17 THE COURT: Yes, sir. All right. Any other
18 preliminary matters before we get our jury?

19 MR. ELKIN: Not here, Your Honor.

09:07:22 20 THE COURT: Okay. Are our jurors here, Joe?

21 COURT SECURITY OFFICER: Yes, sir.

22 THE COURT: Let's take just a short recess. I've got
23 one other matter I need to take care of quickly, and we'll --
24 I'll be back in just a couple of minutes and we'll begin our
25 trial.

1 All right. Let's -- do we have our witness here this
2 morning for cross-examination?

3 MR. OPPENHEIM: Yes.

4 THE COURT: Let's find our witness and be ready to
5 go.

6 All right. We'll take a brief recess.

7 NOTE: At this point a recess is taken; at the
8 conclusion of which the case continues in the absence of the
9 jury as follows:

09:14:10 10 JURY OUT

11 THE COURT: All right, Joe. Let's get our jury,
12 please.

13 NOTE: At this point the jury returns to the
14 courtroom; whereupon the case continues as follows:

15 JURY IN

16 THE COURT: All right. Please have a seat.

17 Good morning, ladies and gentlemen. Thank you,
18 again, for coming in on time this morning.

19 Again, did you heed my advice not to do any research
09:15:21 20 or investigation or talk to anybody? Yes? Thank you very
21 much.

22 All right. Good morning, sir.

23 THE WITNESS: Good morning.

24 THE COURT: All right. Cross-examination.

25 MR. BRODY: That you, Your Honor.

1 We've got a binder for the witness.

2 THE COURT: All right. Joe. You can give that to
3 Joe.

4 THE WITNESS: Okay. Thank you. I'll trade you for a
5 bigger one.

6 THE COURT: Please, go ahead, Mr. Brody.

7 MR. BRODY: I'm not asking about all of it, sir. It
8 shouldn't be as threatening as it looks.

9 I wanted to start -- could I -- I understand you
10 folks control the ELMO?

11 THE COURT: You are on live.

12 SAMUEL BAHUN, called by counsel for the plaintiffs,
13 having been previously sworn, continues to testify and state as
14 follows:

15 CROSS-EXAMINATION

16 BY MR. BRODY:

17 Q. This is a summary exhibit that you put in yesterday. And
18 I am sorry, I put a tab over it. They shouldn't trust me with
19 exhibits because I wrote on it.

09:17:01 20 I just wanted to ask a question that I hadn't
21 understood when you were testifying yesterday.

22 A. Sure.

23 Q. There is an entry here for hashes.

24 A. Yes.

25 Q. What does that refer to?

1 A. Excuse me. That entry is in reference to -- sorry -- the
2 terms "hashes" is kind of a shortened term for unique files,
3 unique song files in this case.

4 Q. Okay. So these are the -- that's what I wanted to
5 understand. Thank you.

6 Can we have Plaintiff's Exhibit 4 up, please. It's
7 admitted, I believe.

8 And we're calling up on the screen right now the 2012
9 statement of work. And what happened was there was a sort of
09:18:01 10 an initial agreement, a Master Agreement with -- between RIAA
11 and MarkMonitor, and then each year there was a sort of a new
12 agreement entered into that specified the work you were going
13 to do during that year.

14 And those were called the statements of work, right?

15 A. Correct.

16 Q. Okay. And this is the one for 2012, this is the first of
17 the series. Yes?

18 A. Oh, sorry, is that a question?

19 Q. Yeah, I meant it to be a question.

20 A. Sorry.

21 Q. Is it the first of the series? I am sorry.

22 A. Yes, I believe so, but it is the 2012 agreement.

23 Q. Okay. And this agreement applied to -- the statement of
24 work applied to -- it applied to the Cox investigations, right?

25 A. Yes.

1 Q. And it also applied to what is known as the CAS or cap
2 investigations?

3 MR. OPPENHEIM: Objection. I don't know what the
4 term "investigations" is. It's not in the record. It's not in
5 the documents. It's misleading.

6 MR. BRODY: Projects, tasks, whatever you want to
7 call it.

8 THE COURT: All right. As -- the question as
9 amended, if you can answer it, please go ahead.

09:19:12 10 A. I'm sorry, can you repeat the question?

11 BY MR. BRODY: (Continuing)

12 Q. Sure. Does this agreement apply both to the work that you
13 did in connection with Cox and to the work that you did in
14 connection with the ISPs who were part of the Copyright Alert
15 System or copyright alert program?

16 A. Yes.

17 Q. Okay. And the portion of the work you did that related to
18 Cox, that was referred to, throughout the document, as the
19 non-university peer-to-peer notice program, right?

09:19:47 20 A. I would need to read through the document to be able to
21 answer that specifically. Yeah, I would just need to look
22 through.

23 Q. You're not sure what that -- well --

24 THE COURT: Do you want to --

25 Q. If you can go down to the -- no, leave that section up.

1 The one you had before -- the introduction.

2 A. I do see that term here.

3 Q. Yeah. And what that refers to is the part of the work
4 that you were doing that did not relate to the CAS parties.

5 Let me just ask you: What is that portion -- what
6 does that refer to?

7 A. I am sorry, which -- what does what refer to?

8 Q. The non-university peer-to-peer notice program.

9 A. Yes, that's the portion of services -- correct, not
09:20:49 10 related to the copyright alert program in this case.

11 Q. Okay. And just to get back to where we started, this
12 agreement covers both?

13 A. Yes.

14 Q. Now, I want to talk a little bit about the obligations
15 that you undertook to perform -- the activities you undertook
16 to perform under this agreement.

17 One thing -- and actually, I am not sure it's in the
18 agreement, but you did share this with us at your deposition.

19 Is it correct that when you were doing your work in
09:21:34 20 these programs, it was not your intent to send notices to
21 business customers for the ISPs?

22 A. Yes.

23 Q. And, in fact, you implemented some features in your
24 software to make sure that notices -- or to do your best to
25 make sure that notices were not going to business customers,

1 right?

2 A. Yes.

3 Q. And if notices went to business customers, it happened
4 notwithstanding the safeguards that you built into your
5 software to avoid exactly that?

6 A. I'm --

7 Q. That was a bit of a long question. Do you want me to
8 break it down for you?

9 A. Yeah, if you can clarify it, please.

09:22:24 10 Q. Okay. So you were trying to make sure that notices didn't
11 get to businesses?

12 A. Correct.

13 Q. And if notices -- and you modified your software to
14 make -- to do your best to make sure that wouldn't happen?

15 A. I don't know if I would subscribe it as modifying the
16 software. But, yes, there was -- there was an element of it in
17 place to try to prevent that, yes.

18 Q. Okay. Well, a portion of your software was intended to
19 prevent notices to businesses, correct?

09:22:56 20 A. That's not exactly -- I mean, it's not exactly the way I
21 would describe it. But, yes, there was -- there was an element
22 of it in place to try to prevent infringements from being sent
23 in notices that may be related to business customers of Cox,
24 yes.

25 Q. Okay. And if notices were sent to business customers of

1 Cox, then what that meant was that that element that you had
2 put in place was unsuccessful, at least in that instance,
3 right?

4 A. Again, I wouldn't describe it that way. I mean, I think
5 you have to understand how that part of the process works.

6 Q. Well, you were trying not to send notices to businesses.
7 And if you sent notices to businesses, then your effort was
8 unsuccessful; isn't that true?

9 MR. OPPENHEIM: Asked and answered, Your Honor.

09:23:47 10 THE COURT: Overruled. You may answer.

11 A. I think the way --

12 THE COURT: You may answer yes, you may answer no.
13 He is asking for yes or no answers. If you can't answer it yes
14 or no, then just say, I can't answer it yes or no. Okay?

15 THE WITNESS: Okay. Thank you.

16 BY MR. BRODY: (Continuing)

17 Q. Would you like the question reread?

18 A. Yes, please.

19 MR. BRODY: Can you reread the question, sir?

20 NOTE: The court reporter read back the requested
21 portion.

22 A. No.

23 BY MR. BRODY: (Continuing)

24 Q. Okay. Can we go to -- can we go to the back of the
25 document. Go up -- I am sorry. Yeah, that's what I want.

1 Thank you.

2 Can you blow up the second portion?

3 And I wanted to talk about the question of caps. We
4 spent a lot of time talking about that yesterday.

5 Now, first of all, in this exhibit it shows 7,200
6 notices a day going to Cox, right? I am sorry, 7,200 notices a
7 month going to Cox?

8 A. Yes.

9 Q. And this was -- you sent notices on weekdays, right?

09:25:51 10 A. Yes. I believe at this time we were sending Monday
11 through Friday, yes.

12 Q. Okay. So in most months there are 20 weekdays, so 7,200
13 notices is 360 notices per day?

14 A. Yes.

15 Q. Did anybody from RIAA tell you that at that time the limit
16 was 400 notices, not 360?

17 A. I don't -- I don't recall the exact amount. I know it was
18 a low daily amount, but I don't recall the specific number.

19 Q. Let me ask you this. The 7,200 number, the 360 per day,
09:26:31 20 is that a number that RIAA gave you, or is that a number that
21 you put in there on your own?

22 A. Ultimately it came from RIAA.

23 Q. Okay. And do you recall them telling you that, well, you
24 know, we can send some more notices, but we don't want to
25 bother, we just want to stop at 360 a day?

1 A. No.

2 Q. Can we put up -- or could you turn to, in your binder, the
3 tabs -- the tab for Deposition Exhibit 86 -- or Defendant's
4 Exhibit 86, I am sorry.

5 Have you got that?

6 A. Yes. Sorry. The binder is not quite fitting --

7 Q. That is -- what is that?

8 A. Sorry about that.

9 Q. I think it's the statement of work for 2013, right?

09:27:56 10 A. Yes.

11 Q. Okay. And if you look at the next tab, 87, that's the
12 statement of work for 2014?

13 A. Yes.

14 Q. And you have seen and you are familiar with those
15 documents, right?

16 A. Yes.

17 MR. BRODY: Okay. I would move those exhibits,
18 Defendant's Exhibits 86 and 87.

19 MR. OPPENHEIM: No objection.

09:28:20 20 THE COURT: All right. They are received. There is
21 no objection.

22 MR. BRODY: All right. Let's -- can we put 86 up on
23 the screen? And can we go to page 86, DX 86-7. And can you
24 blow up the same section of that chart.

25 BY MR. BRODY: (Continuing)

1 Q. Okay. So this is the -- this is the number of notices
2 that you were going to be sending to Cox in 2013, right?

3 A. Yes.

4 Q. And that number went up, it went up from 7,200 a month to
5 9,000 a month, right?

6 A. Yes.

7 Q. 9,000 a month, that would be 450 per workday?

8 A. Yes.

9 Q. Did anybody from RIAA tell you, you know, we could really
09:29:35 10 send 600 notices a month this year, but we're going to stop at
11 450?

12 A. No.

13 MR. OPPENHEIM: Objection. You said "year." I think
14 you meant "day," right?

15 MR. BRODY: Day, yes. Let me reask the question.

16 THE COURT: He answered no. I think he understood
17 what you meant.

18 MR. BRODY: Okay. Thank you.

19 THE COURT: Go ahead.

09:29:52 20 BY MR. BRODY: (Continuing)

21 Q. Now, how did the number get from 7,000 to 9,000?

22 A. I don't know. I don't know the specifics. Like I said,
23 it was a number that we were given.

24 Q. You were given it by RIAA, right?

25 A. Yes.

1 Q. And they told you that Cox had agreed to more notices that
2 year, right?

3 A. I don't recall that specific statement, no.

4 Q. Okay. Well, let me put it this way. If somebody from
5 RIAA said, we forgot to tell MarkMonitor that there was an
6 increase in the number of notices, that would be wrong because
7 you increased the number of notices, right?

8 THE COURT: I'm not sure that that's a fair question.
9 You -- I don't recall his testimony being specific to these
09:31:01 10 numbers. If you want to amend it and ask generally whether
11 there was a -- had he ever had a conversation, you may.

12 But that's an improper question. That's not facts --
13 you're assuming facts that are not in evidence.

14 All right. Ask your next question.

15 MR. BRODY: Okay.

16 BY MR. BRODY: (Continuing)

17 Q. Well, let me just stop with this question then.

18 RIAA, they were the ones who told you to increase the
19 number of notices from 360 to 450 a day, right?

09:31:40 20 A. It would have been part of the discussion as generally
21 like involved in creating the new agreement, but I don't
22 remember that specific -- that one specific comment or
23 discussion, if that's what you're asking.

24 Q. Well, maybe I need to ask a different question then.

25 Who decided that the number of notices to Cox would

1 go from 7,000 to 9,000?

2 A. RIAA.

3 Q. Okay. And that number stayed the same in 2014, it was at
4 9,000?

5 A. I believe so, but I would have to look. Can I look at
6 the --

7 Q. Sure. Please, go ahead. And we can put it up for the
8 jury.

9 Can you put up 87 for the jury? Can we blow up that
09:32:44 10 section?

11 A. So, yes.

12 Q. Can we blow up that entire chart.

13 Now, the so-called participating ISPs, these are the
14 ones who were participating in the CAS program, right?

15 A. Yes.

16 Q. There was a lot of talk yesterday or a fair amount of
17 testimony from you about where those numbers came from, the
18 monthly numbers for the CAS participants. Do you recall that
19 testimony generally?

09:33:54 20 A. Yes.

21 Q. Did anybody from RIAA ever tell you that under the CAS
22 program there were limits on the number of notices that these
23 participants were required to accept?

24 A. No, I don't recall it being presented that way.

25 Q. Okay. Let me ask you another question about these

1 companies. Not all ISPs are the same size, right? I mean,
2 some are bigger than others?

3 A. Correct.

4 Q. Do you know -- for example, Comcast is 57,000 notices on
5 here.

6 Do you know what the relative size of Comcast's
7 subscriber base is compared to -- broadband subscriber base is
8 as compared to Cox?

9 A. No.

09:35:04 10 Q. Do you know the relative size of any of the participating
11 ISPs as impaired to Cox, the relative size of their broadband
12 subscriber base?

13 A. No.

14 Q. Okay. And I'm using a little bit of jargon, which I
15 really shouldn't do. When I say "broadband subscriber base,"
16 all I mean is some of these other -- I'm really asking whether
17 you know how many more broadband users, how many more broadband
18 subscribers any of the ISPs have as compared to Cox, or fewer.
19 How they compare.

09:35:39 20 A. Yeah. No, I don't know that information.

21 Q. Now, I wanted to ask you -- you talked about the GDPI data
22 yesterday?

23 A. Yes.

24 Q. We can take that down.

25 And that's -- at your deposition, I think you

1 referred to those -- that the accumulation of that data is a
2 pulse check. I think that was the phrase you used.

3 Does that sound right? You're familiar with that
4 term?

5 A. That term sounds familiar. I'm not sure if that's exactly
6 what I said in the deposition, but I'll --

7 Q. Okay. Now, when you go out into the Internet and try to
8 find what you folks refer to as infringements, there are a lot
9 of different ways you can do that.

09:36:34 10 Are you okay? Do you need --

11 A. Yeah. Sorry. No, I was just -- I was trying to get --
12 find the spot for the binder. I apologize.

13 Q. All right. I'm sorry. It's -- I never mastered the
14 logistics of those binders.

15 When you go out into the Internet and look for what
16 you folks describe as infringements, there are a lot of
17 different levels at which you can do that. In fact, there's a
18 formal taxonomy of seven levels, right?

19 A. Yes, there is a document that describes it in those terms,
09:37:11 20 yeah.

21 Q. Yeah, I think it's the Movie Labs document?

22 A. Yes.

23 Q. Okay. And the sort of check that you did to accumulate
24 this data, that was what's referred to as a Level 1 check,
25 right?

1 A. Yes.

2 Q. Okay. And in a Level 1 check -- and as you go up the
3 levels, basically you do more investigation of what it is that
4 you're finding?

5 A. Yeah. That's one of the potential misunderstandings or
6 errors in the way that document is structured. But generally I
7 would say yes.

8 Q. Okay. Level 2, which you don't do when you do these pulse
9 checks, Level 2 involves pinging the computers that you've
09:38:08 10 identified, right?

11 A. Yes.

12 Q. And you ping a computer to find out whether it's active,
13 right?

14 A. That's one of the purposes of that. There are others
15 that -- there are others.

16 Q. Well, if you ping it and it doesn't respond, it's not
17 active?

18 A. Not necessarily. But, yeah.

19 Q. Okay. Level 3, that level requires verifying that a peer
09:38:41 20 has a functional peer-to-peer application on it, right?

21 A. Yeah, that's the way that that document describes it, yes.

22 Q. Okay. And then at Level 4, you would actually do a
23 handshake with the computer? We had some testimony about that
24 yesterday. That's where your computer actually starts
25 communicating with the computer that you're investigating?

1 A. Yes.

2 Q. Okay. And Level 1 doesn't do any of those things?

3 A. Not in the manner that you've described the additional
4 steps. They are unique to those. Again, this is based on one
5 document that describes it in those terms. But it's
6 essentially describing seven different -- is it okay if I give
7 a little bit more information to you?

8 Q. No, I really -- you've got very competent counsel. If he
9 thinks something got left out, he'll ask you about it, and he
09:39:46 10 should.

11 A. Okay.

12 Q. And I apologize if I have asked the wrong question, but
13 I've just got to do them in my own way.

14 A. Sure.

15 Q. Now, you would never send a notice to Cox based on a
16 Level 1 check of a computer, of a peer, right?

17 A. No.

18 Q. You would never accuse -- you'd never ask Cox to accuse
19 one of its subscribers of infringing a work based on those
09:40:22 20 Level 1 checks, would you?

21 A. No.

22 Q. Okay. Can we have Exhibit 4 up again? And can we go to
23 Appendix C, which I believe is the last page, yeah. Blow up
24 that. That's great.

25 Now, this is the pricing model for the services you

1 performed for RIAA with respect to CAS and with respect to Cox
2 and the other ISPs, right?

3 A. Yes.

4 Q. Okay. And in the pricing model you quote -- you give
5 three quotes at the bottom. The bottom one is quote for
6 current level of verification, and then there's a little
7 footnote and says that's Level 4. Do you see that?

8 A. Yes.

9 Q. And -- well, actually, I think it's the row, not the
09:41:43 10 column.

11 Level 4, that's the level that RIAA chose, isn't it?

12 A. Yes.

13 Q. And they stayed at that level throughout the entire
14 program. We can look at the other documents, but I believe --

15 A. Yes.

16 Q. Okay. Now, if they had wanted to pay more money, they
17 could have done Level 5, right? You offered them a quote for
18 Level 5?

19 A. Yes.

09:42:18 20 Q. And that would have -- that would have -- how did Level 5
21 compare to Level 4?

22 A. From -- sorry, what do you mean by --

23 Q. What's the -- Level -- what is the --

24 MR. GOULD: Your Honor, objection, please. The
25 highlighting is going in a different direction.

1 MR. BRODY: Yeah, I -- if you could just -- I'll ask
2 you to highlight when I need it. Thank you.

3 THE COURT: All right. Thank you.

4 BY MR. BRODY: (Continuing)

5 Q. Level 5, each of these levels involves a more detailed
6 investigation of the peer computer that's being -- that's the
7 subject of a notice, right?

8 A. No.

9 Q. What's the difference between Level -- hash based Level 5
09:43:07 10 and Level 4?

11 A. So it involves different steps that require -- and in
12 these particular cases, and in most, more resources on our
13 side. Which is why you see an increase in the cost.

14 Q. I understand. And the additional steps you do, that
15 allows you to gather additional information, doesn't it?

16 A. Yes, there's additional data involved in those.

17 Q. Okay. So Level 5 involves more steps and more data than
18 Level 4, right?

19 A. Yes.

09:43:44 20 Q. And you charge more for it as a consequence?

21 A. Yes.

22 Q. And the top level, the RIAA only, full download option,
23 that involves still more steps and still more data, right?

24 A. Yes.

25 Q. And full download, that means when you contact a peer,

1 you're actually going to download the entire file on the peer
2 that you suspect of infringement, right?

3 A. Yes.

4 Q. And in Level 5 -- well -- and that's more expensive than
5 whatever you do at Level 5, right?

6 A. Yes.

7 Q. And RIAA chose Level 4?

8 A. Yes.

9 Q. Okay. Now, we've got a lot of levels here. Another thing
09:44:46 10 that comes in levels is the Audible Magic service, right?

11 A. I believe so, but -- yeah, there are a couple different
12 levels, but that wouldn't be something that I am in control of
13 or typically involved in deciding.

14 Q. Right. RIAA decided what level of service to take from
15 Audible Magic?

16 A. I would assume so, yes.

17 Q. Okay. And do you have an understanding of the -- of what
18 the different levels are and what the pricing is on those
19 levels for Audible Magic?

09:45:22 20 A. No.

21 MR. OPPENHEIM: Can we now take that exhibit down?

22 MR. BRODY: Yes, we can take it down.

23 BY MR. BRODY: (Continuing)

24 Q. You are familiar with the fact that RIAA selected Type 1
25 matching or Level 1 matching from Audible Magic for the Cox

1 program, right?

2 A. I know that -- I know that that was the type that was
3 being used, yes.

4 Q. And they selected Level 3 for the CAS program, correct?

5 A. I believe so.

6 Q. Do you know why the RIAA chose a higher level for CAS than
7 it chose for Cox?

8 A. No.

9 MR. OPPENHEIM: Objection to the use of the term
09:46:17 10 "higher." He hasn't established that Level 3 was higher than
11 Level 1.

12 THE COURT: All right. Sustained. He's --

13 BY MR. BRODY: (Continuing)

14 Q. Do you know why RIAA chose Level 3 for CAS and Level 1 for
15 Cox?

16 A. No.

17 Q. I want to ask a series of questions that kind of start
18 with the hard drive that we looked at yesterday.

19 We played some songs off a hard drive that you folks
09:47:02 20 created, and I think that's Exhibit -- Plaintiff's Exhibit 39.

21 Do you recall that generally?

22 A. Yes.

23 Q. Okay. When was that hard drive created? When were those
24 songs put on that hard drive?

25 A. I believe it was -- I can't tell you for certain, but I

1 think it was the end of 2015, beginning of 2016, around that
2 time frame.

3 Q. So that would have been two years after the end of the
4 notice period here?

5 A. Yes.

6 MR. BRODY: Your Honor, may I approach the bench?

7 THE COURT: Yes, sir.

8 NOTE: A sidebar discussion is had between the Court
9 and counsel out of the hearing of the jury as follows:

09:47:54 10 AT SIDEBAR

11 THE COURT: All right.

12 MR. BRODY: Your Honor, I move to strike Exhibit 39.

13 It was identified as copies of the recordings that
14 were downloaded, but it obviously was made two years after they
15 were downloading the files.

16 MR. OPPENHEIM: That's not what he asked the -- I'm
17 sorry, Your Honor. I didn't mean to interrupt you.

18 THE COURT: Well, that's an insufficient basis for
19 striking it. Just the timing of when it was made doesn't make
09:48:20 20 it any more or any less reliable unless you can establish that,
21 right?

22 MR. BRODY: Maybe I misunderstood, but I thought the
23 testimony was that these were the files that they downloaded
24 and then sent to Audible Magic and then, you know, put in the
25 notices. So these were supposed to be, if we want to know what

1 Audible Magic checked, we're supposed to be able to listen to
2 these files. But that can't be the case because they were --
3 the files were made and saved two years after, four years after
4 the notices were sent. And they were submitted to Audible
5 Magic.

6 MR. OPPENHEIM: First off, the infringing recordings
7 aren't submitted to Audible Magic. So that's incorrect.

8 MR. BRODY: The fingerprints, I'm sorry.

9 MR. OPPENHEIM: But all he asked the witness was when
09:49:02 10 were these put on the hard drive.

11 THE COURT: Right.

12 MR. OPPENHEIM: He hasn't established anything that
13 he just said.

14 THE COURT: That's an insufficient basis. Your
15 motion is denied. Your exception is noted.

16 MR. BRODY: Okay.

17 THE COURT: I mean, if you want to continue to a
18 probe further --

19 MR. BRODY: I will.

09:49:17 20 THE COURT: -- that's fine.

21 MR. BRODY: We'll find out.

22 THE COURT: Okay. Thank you.

23 NOTE: The sidebar discussion is concluded; whereupon
24 the case continues before the jury as follows:

25 BEFORE THE JURY

1 THE COURT: All right, please proceed.

2 BY MR. BRODY: (Continuing)

3 Q. Mr. Bahun, how did the files get onto the hard drive?

4 Audible Magic -- I am sorry -- MarkMonitor put them there?

5 A. Yes.

6 Q. And where did you put them there from? Where were they
7 when you put them there?

8 A. One of our systems where we would -- where we would have
9 stored the files.

09:50:11 10 Q. Okay. So you had them -- and when did they go onto your
11 system?

12 A. I'm sorry, I don't quite understand the question.

13 Q. You said that they were -- they would have come from some
14 place in your system where you stored the files. I just wanted
15 to know when they were stored on your system, wherever they
16 were stored.

17 A. I don't know the exact date. I mean, they would have been
18 different dates.

19 Q. Would they have been stored on the system when they were
09:50:46 20 first downloaded from the Internet -- from a peer-to-peer
21 network?

22 A. Possibly some of them. I don't recall the specific
23 details. I mean, they are -- they are the files based on the
24 hash value, you can determine that.

25 Q. I understand. I mean, they are files and they have hash

1 value and, you know, that matches or it doesn't.

2 What I was trying to ask and understand was where
3 they -- how you came to possess them?

4 A. So we downloaded them from the peer-to-peer networks.

5 Q. And you downloaded them at different times?

6 A. Yes.

7 Q. Some of them were downloaded the first time you found a
8 file, and some of them were downloaded at other times?

9 A. Yes.

09:51:43 10 Q. And I think you said you weren't sure what those other
11 times might have been?

12 A. Right. And some files are downloaded multiple times, you
13 know, throughout the course of the time period we are talking
14 about.

15 MR. BRODY: Your Honor, I would renew my objection.

16 THE COURT: Denied.

17 BY MR. BRODY: (Continuing)

18 Q. Now, the files that you downloaded and stored on your
19 system, were some of them downloaded from BitTorrent?

09:52:27 20 A. Yes.

21 Q. Were some of them downloaded from eDonkey?

22 A. Yes.

23 Q. Were some of them downloaded from Gnutella?

24 A. Yes. I don't think that any of the Gnutella files -- in
25 the form that we produced the drive, I don't think there were

1 any designated as Gnutella, but there were -- the files that
2 were found on Gnutella, because there was overlap, there was
3 duplicates. So on the drive, we provided one copy of each
4 song.

5 Q. The drive has zero Gnutella files, right?

6 A. It's not exactly right.

7 Q. There are no files on the drive that were downloaded from
8 Gnutella; isn't that correct?

9 I understand there is SHA-1 hashes that match files
09:53:22 10 that were downloaded from Gnutella, but at some point you guys
11 went out onto Gnutella, you found a file that you thought was
12 infringing, you downloaded it, you stored it in something or
13 another, and none of those files that you downloaded from
14 Gnutella and stored someplace went onto the hard drive that is
15 Exhibit 39?

16 A. I don't -- the way you're describing it is a little
17 tricky.

18 Q. It wasn't meant to be tricky. Look, what you want -- I
19 can tell that what you're trying to tell me is that you
09:53:59 20 downloaded files from multiple networks that had the same SHA-1
21 hash and you only put one copy on Exhibit 39. Isn't that what
22 happened?

23 A. Yes.

24 Q. Okay. And as a consequence of that, of your doing that,
25 none of the files that were initially downloaded from Gnutella

1 made it onto the hard drive because you had the SHA-1 hash in
2 the BitTorrent directory?

3 A. Again, the files are the same so. So I am not -- I
4 apologize, I am not --

5 Q. Let me -- let me ask you to focus on the question.

6 A. Okay.

7 Q. The files that were downloaded from Gnutella -- so I'm
8 asking kind of a historical question about a file.

9 A. Okay.

09:54:59 10 Q. A file that was borne on Gnutella. That file is in your
11 system someplace, but it's not on Exhibit 39?

12 A. Yes. I mean, it's the same file. But I think if I
13 understand the way you're asking the question, yes.

14 Q. Well, it's the same file because they all share the same
15 SHA-1 hashes, right?

16 A. I mean, that -- that proves that they are identical.

17 Q. James, could we open Exhibit 141, please? Oh, I am sorry,
18 that's Plaintiff's Exhibit 11.

19 Now, we searched yesterday with Ms. Frederiksen-Cross
09:55:55 20 for a file with the SHA-1 hash started 8C1EDC.

21 Do you have that hash? Can you find it?

22 Okay. And can you scroll to the right. There you
23 go. Keep going.

24 Okay. Those columns K, L, and M, that's the -- I am
25 sorry, just K, L, and M. It actually goes over to N, too, I

1 guess.

2 That's the information that Audible Magic returned to
3 you about the file with that SHA-1 hash, right?

4 A. Yes.

5 Q. And what it said was that that file with that SHA-1 hash
6 was Lady Antebellum, "Need You Now" --

7 A. Yes.

8 Q. -- right?

9 A. Yes.

09:57:02 10 Q. Okay. And if we went to the hard drive, we could play
11 that song. And I have to admit, I wouldn't recognize Lady
12 Antebellum if she walked in off the street, but I would assume
13 it would be Lady Antebellum.

14 A. Yes. I mean -- I am sorry, can you repeat the question?

15 Q. Sure. If we went to the hard drive and looked for the
16 file that we have identified here and played it, it would be
17 Lady Antebellum singing "Need You Now"?

18 A. Yes.

19 Q. Okay. Now, can we go to the Gnutella tab, please. And
09:57:41 20 can we search on the same SHA-1 hash.

21 And can you scroll to the right, please. Now --
22 whoops, back. There you go.

23 Now, we just searched on the same SHA-1, which means
24 it is supposed to be the same file, right?

25 A. Yes.

1 Q. But it's not the same file, at least Audible Magic said it
2 wasn't the same file? Audible Magic said it was Tina Ray -- or
3 Tia Ray singing "Do you." That's what the spreadsheet says,
4 right?

5 A. Yeah, that's what the spreadsheet says.

6 Q. But we can't go to the hard drive and listen to that file,
7 can we?

8 A. I wouldn't know without having -- without looking it up on
9 the hard drive.

09:58:42 10 Q. There are no Gnutella files on the hard drive, right?

11 A. I would have to search for this hash to see if the hash is
12 available in the files that were provided --

13 Q. If you search for the hash you will find --

14 THE COURT: No, no. Stop. Finish your answer.

15 MR. BRODY: I'm sorry. I apologize. I genuinely
16 apologize.

17 THE COURT: Go ahead and finish your answer.

18 A. I mean, that was it. I would have to look on the hard
19 drive for the hash.

09:59:10 20 BY MR. BRODY: (Continuing)

21 Q. Yeah. And if you did, you would certainly find the one in
22 the BitTorrent directory, right? But you would not find any
23 file matching that SHA-1 hash in the Gnutella directory because
24 there is no Gnutella directory on the hard drive?

25 A. I'm sorry, was that a question?

1 Q. Yes, sir. That was a question.

2 A. I am sorry, can you repeat it? What was the question?

3 Q. Isn't it true that you could not search on the SHA-1 hash
4 on the hard drive in the Gnutella directory because there is no
5 Gnutella directory?

6 A. There is no Gnutella directory, correct.

7 Q. Which means you can't search on the SHA-1 hash in the
8 directory that doesn't exist?

9 A. The hash may still exist. I would have to look.

10:00:06 10 Q. Can you search for anything in any Gnutella directory -- I
11 think we have covered the ground.

12 Do you have -- do you have the Bahun demonstrative
13 there, James?

14 You can take this exhibit down.

15 I'll put it on the ELMO.

16 Okay. This is -- this is a demonstrative that you
17 used yesterday, right?

18 A. Yes.

19 Q. We've been using the word "download" a lot, and I want to
10:01:47 20 focus on two points in the process and talk about what
21 downloads do or didn't, or should or shouldn't have occurred.
22 Okay?

23 Now, in the second step of the process, you -- well,
24 let's just walk through it.

25 The first step of the process, MarkMonitor is going

1 out on a peer-to-peer network, you're searching for potentially
2 infringing files, right?

3 A. Yes.

4 Q. I need to leave this behind. I wanted to ask you one more
5 question about the SHA-1 hashes that we were looking at before
6 in the hard drive.

7 I will tell you, because I know my good friend will
8 raise the question, those songs are not among the works that
9 are at issue in this case. But I wanted to ask you a question
10:02:49 10 about the operation of your system.

11 A. Okay.

12 Q. Does it depend on whether or not a file that you download
13 ends up at issue in a lawsuit? Is it as accurate -- is it
14 accurate for every file that you download, or is it only
15 accurate for some?

16 A. I'm sorry, is what accurate?

17 Q. Your system, the whole system of downloading and matching
18 and hashing and comparing and saving and noticing. Everything
19 that you do, you do the same for every file that you download,
10:03:20 20 right?

21 A. Yes.

22 Q. Okay. And it doesn't matter -- you didn't in this case,
23 the files where you found them and sent notices to Cox, you
24 didn't process them any differently depending upon whether or
25 not they ended up in this lawsuit, did you? They were all

1 processed the same?

2 A. Yes.

3 Q. Okay. Thank you. Let's go back to this demonstrative.

4 So the first step, you go out into the peer-to-peer
5 network, you look for potentially infringing files. So that's
6 those search terms that you gave to us before, right?

7 A. Yes.

8 Q. And when you find one that may be potentially infringing,
9 you download it and confirm it, and that's the Audible Magic
10 process?

10:04:09

11 A. Yes.

12 Q. And the reason you download it and confirm it is because
13 you don't actually know what's in the file until you do that,
14 right?

15 A. Yes. I mean, not -- yeah.

16 Q. Because people can name these files -- you know, they name
17 them arbitrarily, they name them however they choose to name
18 them, right?

19 They are not like -- that's the question. Isn't it
10:04:38 20 true that they name them however they choose to name them?

21 A. They have that ability, yes.

22 Q. Okay. And they're not -- well, never mind.

23 Okay. So you go to Audible Magic. You download the
24 file, fingerprint it, send the fingerprint to Audible Magic.
25 Audible Magic matches it to their database. They send you back

1 a message and they tell you, here is what you found. Right?

2 A. At a high level, yeah.

3 Q. Okay. And that -- what do you -- Ms. Frederiksen-Cross
4 referred to that as, I believe, the verification module of your
5 system yesterday. Is that a usable term?

6 A. Yes.

7 Q. Okay.

8 A. Yeah.

9 Q. Then the next step I think she referred to as the
10:05:24 10 collection or the detection module. Let's go with collection
11 because that's what you have here.

12 And that's where you go to one of the peers in the
13 network to see whether they have got a copy of whatever it is
14 that you just sent off to Audible Magic, right?

15 A. It's not exactly, but kind of.

16 Q. Okay.

17 A. Sorry.

18 Q. Well, this is -- this is the point where you're contacting
19 individual peers, or in this case Cox subscribers, the IP
10:06:06 20 addresses of Cox subscribers, to investigate whether they have
21 the file that you have sent off to Audible Magic?

22 A. Yes.

23 Q. Okay. And in that process, you do not download data,
24 right? Or you do not download a copy of the file or any
25 portion of the file?

1 I'm sorry. That's a bad question. The file is a
2 little ambiguous here.

3 The file that you download and fingerprint and send
4 to Audible Magic, that's actually the music file, right? The
5 audio file?

6 A. Yes.

7 Q. And when you download it, of course that's in digital
8 form, right?

9 A. Yes.

10:06:52 10 Q. Okay. And what you're trying to find out in the
11 collection stage is whether that same digital audio file is on,
12 in this case, the computer of a Cox subscriber?

13 A. That's not exactly the way I would describe it, no.

14 Q. At the end of the process, when you contact the computer
15 of a Cox subscriber, whatever you do, at the end of that
16 process have you satisfied yourself that the Cox subscriber has
17 a copy of the same file that you sent off for fingerprinting to
18 Audible Magic?

19 A. Yes.

10:07:46 20 Q. Okay. But when you do that, when you investigate the
21 peer, you do not download the digital music file or any piece
22 of it; isn't that true?

23 A. It's not necessary, so I'm not understanding the --

24 Q. I think -- I'm sorry. Please finish.

25 A. I just -- could you clarify because I don't understand

1 what you're asking.

2 Q. The question was -- I understand your views that it's not
3 necessary, but I just want to establish the fact.

4 When you investigate the peers, the Cox subscribers,
5 you do not download the digital music file or any portion of
6 it, any piece of it; isn't that true?

7 MR. OPPENHEIM: Objection. He's using a term
8 "digital music file," and I don't know what that means.

9 THE COURT: Yeah. Yeah, let's add from where.

10:08:45 10 BY MR. BRODY: (Continuing)

11 Q. So when you're -- I actually don't think there's a dispute
12 about this, but I seem to be asking the question wrong.

13 When you contact a Cox subscriber -- or when you're
14 out in the peer-to-peer network --

15 A. Yes.

16 Q. -- and you download the copy of the song that you're going
17 to send for fingerprinting, you don't know whether those --
18 that's not the part of the process where you determine whether
19 a Cox subscriber is infringing?

10:09:16 20 That's just getting the file so you know what you're
21 looking for when you're investigating potential infringers; is
22 that fair?

23 A. That's the main purpose of that step in the process. I
24 think -- well, sorry, go ahead.

25 Q. I'm sorry. And the places you get that file from, they

1 may be Cox subscribers, they may be Comcast subscribers, they
2 may be people in China, they could be anybody who's on the
3 peer-to-peer network, right?

4 A. Yes. In that process, yes.

5 Q. Okay. Then in the third step of the process, the
6 collection step, you're zeroing in on the people you think have
7 copies of that file, and in this case those are Cox
8 subscribers?

9 A. Yes.

10:10:06 10 Q. Now, do you download any portion of the song when you're
11 investigating the Cox subscribers?

12 A. Sorry. I'm just trying to make sure I understand your
13 question clearly.

14 Q. What is it you don't understand about the question?

15 A. In that step, in that specific step, it's unnecessary
16 because that portion of the work has already been done at that
17 stage.

18 MR. BRODY: Your Honor, I move to strike the answer.

19 THE COURT: He's explaining that he already has done
10:10:43 20 that step. But if you want to --

21 MR. BRODY: Yeah.

22 THE COURT: Listen to the question carefully.

23 THE WITNESS: Okay.

24 THE COURT: Ask it one more time. And he's asking,
25 at this particular step do you download the music, right? Is

1 that correct?

2 MR. BRODY: That's exactly right, Your Honor.

3 THE COURT: Okay.

4 MR. BRODY: That's exactly right.

5 THE COURT: Then can you answer that question, or do
6 you need it asked again?

7 THE WITNESS: No, I think that's clear. So at this
8 step in the process, we do not redownload any additional
9 portion of the file.

10:11:17 10 BY MR. BRODY: (Continuing)

11 Q. Thank you.

12 A. Sorry.

13 Q. I thought we were in agreement on that, and that really is
14 what I wanted to ask you.

15 A. Sure.

16 Q. And if we went to the evidence packages that you looked
17 at, those computerese things, and we looked to see whether any
18 data was downloaded, in all of the relevant fields we'd see
19 zero, right? Because no -- none of the music was downloaded?

10:11:49 20 A. What do you mean by all of the relevant fields?

21 Q. I'm sorry. That's -- I'll withdraw that question.

22 Now, you did commit in the statements of work to --
23 for subsequent detected instances of the same file match, that
24 is to say after you found something that's been verified by
25 MarkMonitor, you were required to download enough of the file

1 to be able to prove that the user was offering the file and
2 also to verify that the file was a valid peer-to-peer file?

3 A. Could you -- am I supposed to be looking at a document or
4 are you just --

5 Q. Well, I was just asking.

6 A. Oh, I'm --

7 Q. I mean, I can direct you to the place in the document if
8 you'd like to see it.

9 A. It might help, but --

10:13:06 10 Q. Sure.

11 A. If you --

12 Q. It's in all of them. But if you look at Exhibit --
13 Plaintiff's Exhibit -- do we have it there?

14 Look at Defendant's Exhibit 87.

15 A. Okay.

16 Q. That's the 2013 agreement?

17 MR. BRODY: Can we turn this off?

18 MR. OPPENHEIM: This is the 2014, I think.

19 MR. BRODY: Oh, it's 2014. I'm sorry.

10:13:49 20 MR. OPPENHEIM: I think that's right.

21 BY MR. BRODY: (Continuing)

22 Q. And if you go to --

23 A. Okay.

24 Q. All right. Go to tab 86. The language changed a little
25 bit in the 2014 document.

1 Oh, I'm -- it's my fault. I was giving you the wrong
2 page. Can you go to page 9 of either one, whatever you've got
3 opened.

4 MR. OPPENHEIM: Let's just pick one.

5 Q. Yeah, let's -- 2013, Exhibit 86. Plaintiff's Exhibit 86.

6 A. Okay.

7 Q. Oh, I'm sorry, Defendant's Exhibit 86. There's a
8 paragraph there called Hash Based Verification. Do you see
9 that?

10:15:52 10 A. Yes.

11 Q. And that's the type of verification you were doing for
12 RIAA when you investigated the computers of the Cox
13 subscribers, right?

14 MR. OPPENHEIM: Objection. We keep using this term,
15 "investigated the computers of Cox subscribers," and there's no
16 testimony that that's what was done.

17 THE COURT: Yeah.

18 MR. OPPENHEIM: And it's just not the right language.

19 MR. BRODY: When you pulled -- I'm sorry.

10:16:15 20 THE COURT: Yeah, rephrase the question. Sustained.

21 BY MR. BRODY: (Continuing)

22 Q. When you collected data from the computers of the Cox
23 subscribers.

24 A. I'm sorry. Can you repeat the question?

25 Q. When you went to the Cox subscriber computers, you

1 promised that you would download enough of the file to be able
2 to record the source and destination, and to prove that the
3 user was offering the file, that the user is a valid P2P user,
4 and also to verify the file is a valid P2P file.

5 Then you went on and said: MarkMonitor will
6 communicate with the IP address -- so that's the IP address of
7 the Cox subscriber -- to the extent necessary to verify all
8 music files and their associated unique hashes from the P2P
9 networks.

10:17:20 10 Right?

11 A. That's what the language in this clause says, yeah.

12 Q. And that's what you promised to do?

13 A. So the reason I wanted you to direct me to the actual
14 language, this is actually in Appendix B. I would need to take
15 a look at this because -- it is okay to explain?

16 Q. Sure.

17 A. This Appendix B is a -- it's an overview of the RFP
18 related to the CAS system. I need to double-check to answer
19 your question the references tying this in. But the language
10:18:06 20 here is specific to that program, and I just want to
21 double-check and verify this.

22 Q. Let me just ask a high-level question, maybe that'll save
23 us a little time. When you contacted the computer of a Cox
24 subscriber and collected data from that computer, you were
25 supposed to collect enough data so that you could report to

1 RIAA -- or, I'm sorry, so that you could determine whether the
2 Cox subscriber had a copy of the file that you had downloaded
3 and sent off to Audible Magic?

4 A. Yes.

5 Q. Okay. And again, just not to belabor a point, but just to
6 get back to the place where we were in our discussions, the way
7 you did that was by matching the hashes, but you did not
8 download any portion of the music on the -- from the Cox
9 subscriber?

10:19:17 10 A. Yes, with -- I mean, with the way you're describing that,
11 yeah, in that step, we weren't redownloading the file that we
12 had already downloaded.

13 Q. Okay. Now, do you remember telling the RIAA that in fact
14 you did intend to download pieces of music from the
15 subscriber's computers?

16 A. No, I don't -- I mean, I don't recall that specifically.

17 Q. Do you remember telling them that you were going to
18 download those pieces of the music file and rehash them to make
19 sure they were the same as what you'd found on the Internet?

10:19:57 20 A. I mean, that process is done through the communication
21 when you're connected to a peer. So I don't know if I
22 understand your question.

23 Q. Did you tell the Cox -- did you tell RIAA that you were
24 going to download a piece of the music file from a Cox
25 subscriber and rehash that piece to make sure that the piece

1 matched the file that you had sent off to the -- the same piece
2 and the file that you had sent off to Audible Magic?

3 A. No, I don't believe so.

4 Q. Okay. Could you look at the tab for Defendant's
5 Exhibit 17 in your binder, please.

6 A. Yes.

7 Q. That's a copy of a document titled -- well, you're
8 familiar with that document, right?

9 A. Yes.

10:21:22 10 Q. It's a document that MarkMonitor prepared for the RIAA and
11 MPAA?

12 A. Yes.

13 Q. And you participated in its preparation, right?

14 A. Yes.

15 MR. BRODY: I'd move the admission of Defendant's
16 Exhibit 17, Your Honor.

17 THE COURT: Any objection?

18 MR. OPPENHEIM: No objection, just subject to the
19 confidentiality issue that Your Honor has been dealing with.

10:21:48 20 THE COURT: All right. And that will be waived and
21 it'll be admitted publicly. Thank you.

22 BY MR. BRODY: (Continuing)

23 Q. All right. Now, as it says on the face, this is a
24 document that was prepared by MarkMonitor for RIAA and MPAA,
25 right?

1 A. Correct.

2 Q. And it was prepared in connection with the CAS program?

3 A. Yes.

4 Q. But at least insofar as it describes the data collection
5 process from the peer computers, the document describes not
6 only the CAS program, but also the Cox program?

7 A. Can you clarify your -- I don't understand what you're
8 asking.

9 Q. Does the document describe the peer-to-peer enforcement
10:23:27 10 process that would have been used for both the copyright alert
11 program and the RIAA's non-university notice program in effect
12 as of April 11, 2012?

13 A. There are some -- there are some elements that are
14 similar. But this document, if I recall correctly -- can I
15 review the document?

16 Q. Sure.

17 A. So I won't sit here and read every word, but I just kind
18 of wanted to refresh my memory. I believe this document was
19 primarily or maybe entirely produced related to the
10:24:38 20 CAS program.

21 Q. Right. But it -- as it turned out, it described both of
22 them, both the CAS and the non-university program; isn't that
23 true? That was your answer at deposition.

24 A. Yeah. I mean, in general because there are similarities
25 in the technologies used and some of the processes that we are

1 running, then, yes, there are some things in this document that
2 would apply to the non-participating or the non-CAS program,
3 yeah.

4 Q. Well, one thing that would apply is that both the CAS
5 program and the non-CAS program use Level 4 and performed Level
6 4 data collection on the peer computers, right?

7 A. For RIAA?

8 Q. Uh-huh.

9 THE COURT: We can't translate uh-huh.

10:25:36 10 Q. Yes. That was a yes.

11 A. I apologize, but can you ask the question one more time.

12 Q. Sure. Both -- for both programs you were doing, we looked
13 at it before in the statement of work.

14 A. Okay.

15 Q. You were doing this Level 4 investigation of the -- not
16 investigation, collection of data from the peer computers?

17 A. Yes.

18 Q. Okay. So when you talk about what you're going to be
19 doing when you collect data from a peer computer in this
10:26:14 20 document, that applies both to the CAS program and to the

21 non-CAS program, which means it also applies to Cox?

22 A. Well, that's -- that's where I'm hesitating because this
23 document includes elements outside of the RIAA.

24 Q. At your deposition -- you have your -- you should have
25 your deposition in that binder.

1 A. What tab is it?

2 MR. OPPENHEIM: Is this impeachment?

3 Q. The tab is called Deposition, I believe.

4 A. Sorry, it was hiding.

5 Q. I think it's the last tab.

6 Can I help the witness, Your Honor?

7 THE COURT: I think he has found it.

8 A. Yes, I have got it.

9 THE COURT: What page do you want him to look at?

10:28:20 10 Q. I want you to look at page 260, please.

11 A. Okay.

12 Q. Have you got it?

13 A. Yes.

14 Q. And at line 20, beginning at line 20, were you asked this
15 question and did you give this answer?

16 Question: And does this document describe the
17 peer-to-peer enforcement process that would have been used for
18 both the copyright alert program and the RIAA's non-university
19 notice program in effect at this time, April 11, 2002?

10:29:14 20 Answer: So, yes, but that's not on purpose.

21 And then you went on to explain that there was some
22 overlap in particular with respect to Level 4.

23 Were you asked that question and did you give that
24 answer, sir?

25 A. Yes. I mean, that's listed in the transcript.

1 THE COURT: Okay. I think you meant 2012.

2 MR. BRODY: I believe I did, April 11, 2012.

3 THE COURT: All right, let's move on.

4 MR. BRODY: Now, let's look at what's inside the
5 document.

6 MR. OPPENHEIM: One moment, Your Honor. Can we read
7 the rest of that under the --

8 THE COURT: You may redirect him.

9 MR. BRODY: I will read it in, if you like.

10:30:00 10 THE COURT: What?

11 MR. BRODY: I said I can read it in, if you like.

12 THE COURT: Whatever you choose to do.

13 MR. OPPENHEIM: Continuing on to page 261, please.

14 MR. BRODY: Sure.

15 MR. OPPENHEIM: It's right here if you would like to
16 use my copy.

17 MR. BRODY: So, yes, but that's not on purpose. Can
18 you explain that? The document is not meant to describe

19 specifically the non-university program. It just happens that

10:30:25 20 that was also brought under the same guidelines. So this

21 document doesn't reference -- for example, this document

22 doesn't reference that other programs that Cox notices were

23 related to, but I can tell you that the requirements specified

24 and described in this document are the same. With the

25 exception -- I don't know. I would have to look. With the

1 exception of possibly the difference I mentioned in the Audible
2 Magic, all of their other collection steps are the same, but
3 that's just a coincidence. My point is clarifying that this
4 document, the purpose of it and what's described in it was not
5 intended to describe the non-university notice program.

6 BY MR. BRODY: (Continuing)

7 Q. That was your full answer?

8 A. Yes.

9 Q. Okay. And the only difference you identified in that
10:31:06 10 answer had to do with Audible Magic?

11 A. Yeah. I seem to recall. I would have to look back
12 through, but I think there was some other discussion in
13 deposition related --

14 Q. Let's just stick with the deposition for now. We'll go
15 through the document.

16 Were you asked those questions at your deposition and
17 did you give those answers?

18 A. Yes, as read from the transcript, yes.

19 Q. Okay. Could we go to page 7 of the document. I'm not
10:32:48 20 sure what it is in the exhibit.

21 A. I'm sorry, which document? Oh, right there.

22 Q. We are still in this P2P enforcement process document.

23 A. Okay.

24 Q. DX 17. Now, at this page of the document, you're
25 describing the operation of the BitTorrent network. Do you see

1 that? Generally it starts on page 4 of the document.

2 A. Sorry, page 4?

3 Q. Sir?

4 A. Did you say page 4?

5 Q. Page 4.

6 A. Page 7 was on the screen. Sorry.

7 Q. There is a section titled Data Collection, and you list
8 the file sharing networks to be monitored. And there is
9 something called BitTorrent Overview.

10:33:56 10 A. Yes.

11 Q. Okay. And then at page 7, when we're still in the
12 BitTorrent overview -- blow up the second paragraph on that
13 page. You're explaining here to RIAA that in the BitTorrent
14 process an essential step is that when a peer downloads a copy
15 of a file or a piece of a file from another peer, it's going to
16 check that piece to confirm that it's what's it's supposed to
17 be.

18 Do you recall that generally as a feature of
19 BitTorrent?

10:34:54 20 A. Yes.

21 Q. Okay. And you told RIAA that you would be doing basically
22 the same thing --

23 MR. OPPENHEIM: Objection. He keeps saying he told
24 RIAA. And the witness testified that this was a document both
25 for the RIAA and MPAA. So let's be clear about it, please.

1 THE COURT: Okay. Let's clear that up, if you would.
2 I mean, he's answered -- you had the deposition testimony. So
3 to the extent there is a distinction, please address that.
4 Okay. All right.

5 MR. BRODY: Yes, sir.

6 BY MR. BRODY: (Continuing)

7 Q. Did you tell that to MPAA and not RIAA, or did you tell it
8 to both of them?

9 A. Through -- through this document, is that what you are
10:35:42 10 asking?

11 Q. Yeah.

12 A. I mean, the document went to both. I don't recall the
13 exact purpose of this document, but --

14 Q. It went to both, is that -- that's correct?

15 A. Yes.

16 Q. Okay. And both includes RIAA. So when you put something
17 in this document, you were telling it to RIAA, right?

18 A. Yes. Yeah, they received the document, but not everything
19 in the document is equally applicable or is being communicated
10:36:16 20 directly to one or the other parties.

21 Q. Okay. Now, the next page -- or, I am sorry, let's go to
22 page 10 of the document. And there is a section there that is
23 titled P2P Data Collection Agents. And then there is a
24 description of the BitTorrent data collection agent.

25 Now, P2P data collection agents, that's the -- sort

1 of the software entity that actually does the -- does the
2 collection of data from the computer of, in this case, the Cox
3 subscriber, right?

4 A. Yes.

5 Q. Okay. And in this passage on this page, there is no
6 distinction drawn between MPAA -- the collection agents that
7 you're going to use for MPAA and RIAA, is there?

8 A. No, I don't believe it -- this section of the document
9 just draws the distinction.

10:37:59 10 Q. And what you wrote in this section and sent to RIAA, as
11 well as MPAA, was an explanation that your general approach was
12 going to be that you were going to download a piece of data
13 from the users while you were connected with them and that you
14 were going to check the hash on that downloaded piece to make
15 sure you had the right thing.

16 Isn't that what you were telling them?

17 A. The challenge with this document --

18 Q. Sir, is that a yes or a no, or --

19 A. I can't -- I can't answer the question.

10:38:34 20 Q. Okay. Then let's look at what it says.

21 A. Okay.

22 Q. It says: The general approach of the agent -- this is the
23 one, two, three, four, fifth paragraph right above the numbered
24 -- if we could blow up starting with the general approach and
25 going through three.

1 The general approach of the agent to finding users
2 and documenting their activities can be described in the
3 following steps.

4 And then the third step is: The agent tries to
5 download a piece of data from the users while connected with
6 them.

7 Do you see that passage?

8 A. I do see that passage.

9 Q. And that appears in this document, and this is the
10:39:17 10 document you sent to RIAA along with MPAA?

11 A. It's --

12 Q. Is it the document you sent to --

13 THE COURT: The question is: Is this the document
14 that you sent to those other parties?

15 THE WITNESS: Yes, those parties received this
16 document.

17 BY MR. BRODY: (Continuing)

18 Q. And then can we go to the bottom two paragraphs on the
19 page.

10:39:43 20 Those paragraphs read: The agent will request only a
21 single piece of data from each individual user sharing a
22 torrent to minimize the overall amount of data that has to be
23 downloaded as a part of data collection. By downloading a
24 single piece from a user and calculating the hash value of that
25 data, the agent can confirm that the data is the same as that

1 of the original content. Once a piece of data has been
2 downloaded and successfully verified by hash, the system
3 proceeds to examine other users.

4 Do you see that passage?

5 A. I do.

6 Q. And that also appears in the document that you sent to
7 RIAA in April of 2012, doesn't it?

8 A. I am sorry, say the last part of your question again.

9 Q. Doesn't that passage appear in the document you sent to
10 RIAA in April of 2012?

11 A. I think the document speaks for itself. So, yes, it's
12 there, yeah.

13 Q. And if you go onto the next page, that describes other
14 data collection agents.

15 And basically what you were explaining is you took
16 the same approach for Gnutella, Ares, and eDonkey that you took
17 for BitTorrent with appropriate variations for the protocols?

18 A. Sorry, was that a question?

19 THE COURT: He is asking for a yes or no. Is this --
10:41:25 20 does this paragraph state essentially what he just asked?

21 THE WITNESS: I believe it does, yes. But --

22 BY MR. BRODY: (Continuing)

23 Q. Okay.

24 A. Okay.

25 Q. And you even provided screenshots showing how that was

1 going to happen, right?

2 A. I'm sorry, on what page?

3 Q. Sure. Let's look at -- two, four -- can we go to page 16
4 of the exhibit.

5 Can you blow up the section beginning: Activity Log.
6 And going down through the figure 5 activity log. Up a little
7 more. This one is really tiny, so we have got to get this as
8 big as we can. Just under where it says figure 5. Okay.

9 So this was a screenshot that you put into the paper
10:42:44 10 that you sent to RIAA, this -- the picture here, figure 5?

11 A. Yes.

12 Q. And this is a screenshot of an activity log, right?

13 A. Yes.

14 Q. And we looked at one of those yesterday from this case.
15 Do you remember? It was formatted differently, but --

16 A. Right.

17 Q. -- it wasn't as pretty as this one, but it was the same
18 type of report.

19 A. A similar type, yeah.

10:43:16 20 Q. And in this document, you told the folks you were sending
21 it to that you were going to give them an activity log that
22 would document the steps that were going to be taken in the
23 entire process of the investigation of a peer computer?

24 A. I am sorry.

25 Q. That's what you told them you were doing, right?

1 A. Are you referring to the description underneath the
2 screenshot?

3 Q. Yeah. I was asking what is, in effect, said in the
4 description above the screenshot.

5 A. Oh, above it. So, I'm sorry, can you repeat the question?

6 Q. The activity log was meant to give the people, RIAA and
7 MPAA, a time line for the entire process of what was going
8 happen when you were connected to a user's computer?

9 A. Generally, that's -- yeah, that's an accurate description
10 of the activity log.
10:44:35

11 Q. Okay. Can you highlight the two lines, or pull up the two
12 lines in the log that are fourth and fifth from the bottom?
13 Can you blow them up?

14 Okay. So the entry at -- the entries we've
15 highlighted say: Piece downloaded, piece hash checked
16 complete.

17 Do you see that?

18 A. Yes.

19 Q. And that, too, was part of what you put in the document
10:45:24 20 that you sent to RIAA?

21 A. Oh, yes. Yeah, I mean, it's on -- yeah, it's right here
22 on the document.

23 Q. All right. And there's -- I'll do it if you really want
24 to, but you're aware that there is similar information in the
25 other log examples that are included in the document.

1 So in the communications log and in the contact info
2 log, you also show a download of data and a hash verification?
3 A. I would assume so. I mean, I can look at them if you'd
4 like. But I believe the document was intended to show
5 consistency in the examples that were given.

6 Q. Okay.

7 MR. BRODY: Now, Your Honor, how much time do I have
8 before the break?

9 THE COURT: We're going to take a break in about ten
10:46:30 10 minutes. Does that work? Okay.

11 MR. BRODY: Okay.

12 THE COURT: Let's try and finish up.

13 MR. BRODY: We can leave that document.

14 BY MR. BRODY: (Continuing)

15 Q. Now, the jury heard yesterday, I guess has heard a couple
16 of times, about these operational reviews or audits that were
17 done at the request of RIAA and MPAA by Stroz Friedberg and
18 Harbor Labs.

19 You're familiar with that generally, right?

10:47:08 20 A. Yes.

21 Q. And you were involved -- you were actually the point -- or
22 one of the point people -- one of the point persons for both of
23 those reviews?

24 A. Yes. I was involved in both of them, yeah.

25 Q. And, in fact, for Stroz Friedberg, you helped put together

1 a presentation for them to give them information about how the
2 system worked?

3 A. Yeah, I believe we produced that presentation in this
4 case.

5 Q. Can we bring up -- can you turn to the tab DX 91?

6 A. Yes.

7 Q. That's a copy of -- that's a copy of the Stroz Friedberg
8 report. That's the copy -- a copy of the report that Stroz
9 Friedberg submitted --

10:48:45 10 A. Yes, it appears to be.

11 MR. BRODY: Okay. I'd move the admission of -- what
12 are we calling it? DX 81 -- DX 91.

13 THE COURT: All right. Any objection?

14 MR. OPPENHEIM: I thought it was in. So it's either
15 in or I don't object.

16 THE COURT: All right, it's received. It may be in
17 another --

18 MR. OPPENHEIM: Hold on one moment. This one seems
19 to have a different date, and I just --

10:49:15 20 MR. BRODY: Oh, I see. I'm sorry. It came in -- it
21 did --

22 MR. OPPENHEIM: This may have --

23 MR. BRODY: It did come in. It came in as DX 130.

24 MR. OPPENHEIM: That's a different document, I think.
25 Can we have a moment to explore this, Your Honor?

1 THE COURT: Yes, sir.

2 MR. BRODY: All right. My mistake. Can you go to
3 Tab 130, DX 130.

4 MR. OPPENHEIM: So just for clarity's sake, so 91 is
5 not in?

6 MR. BRODY: Yeah, I withdraw 91. My error.

7 THE COURT: Okay. And do you have any objection to
8 130?

9 MR. OPPENHEIM: No, 130 is in.

10 MR. BRODY: Well, 130 is in.

11 THE COURT: It's already in?

12 MR. BRODY: 130 is in.

13 THE COURT: All right. Good. Let's use 130.

14 BY MR. BRODY: (Continuing)

15 Q. Okay. 130. This is the report that this -- is it -- do
16 you know, is it Stroz or Stroz?

17 A. I believe it's Stroz.

18 Q. Okay. This is a copy of the report that Stroz Friedberg
19 did after their investigation, their analysis of your system,
10:50:31 20 evaluation of your system, right?

21 A. It appears to be, yes.

22 Q. Okay. And Stroz Friedberg, they didn't come into the --
23 their work understanding how your system worked, they had to
24 learn that from you, right?

25 A. Correct.

1 Q. Okay. And what they learned from you was that you were
2 going to download pieces of data from the peer computers, the
3 Cox subscribers computers, and rehash them when you did your
4 data collection?

5 A. No.

6 MR. OPPENHEIM: Objection, not in evidence. There's
7 no foundation for that.

8 MR. BRODY: Well, let's put in evidence.

9 THE COURT: Overruled. He's answered the question.

10:51:22 10 He said no.

11 MR. BRODY: Okay.

12 BY MR. BRODY: (Continuing)

13 Q. Could you turn to page -- can you turn to page 4 of the
14 document?

15 A. Okay.

16 Q. Stroz Friedberg, in this part, they're reporting on their
17 understanding of the platform. It's called Platform Overview.
18 Have you got that?

19 A. I'm sorry. Where -- which page?

10:52:22 20 Q. Yeah, on the prior page, they say -- there's a section
21 that's titled Assessment of MarkMonitor Antipiracy Platform.
22 And they start by doing an overview of the platform.

23 THE COURT: On page 3.

24 Q. It's on page 3.

25 A. The -- is the heading Summary of Findings and -- I don't

1 know --

2 Q. No. I'm sorry. Can we have page 3 of the document, HL --

3 A. Page 3 of the documents. I'm sorry. I'm looking at the
4 DX page. My apologies.

5 Okay. Yes, I think --

6 Q. Okay.

7 A. -- Assessment of MarkMonitor Antipiracy Platform. Is that
8 what you're -- is that the section you're referring to?

9 Q. Yeah, Assessment of MarkMonitor Platform.

10:53:05 10 James, can you go two pages further?

11 A. Oh, I think -- I was about to say I think they're doing
12 the same thing on the screen that I was doing.

13 Q. I'm sorry. This is always confusing. Okay.

14 A. Okay. Now --

15 Q. And we're in a section where they're providing their
16 assessment of your platform or your system, and they're
17 starting out by giving an overview of the system, right?

18 A. Yes, the CAS system.

19 Q. Okay. And then on the next page, if you could blow up
10:53:57 20 that second-to-last paragraph.

21 They're talking about what happens in the collection
22 process. And the last sentence of that paragraph, they say:
23 The collection agents search for, download portions of, and
24 create evidence packages or cases of infringing works,
25 including, among other data points, IP address, port, time,

1 date, size, PeerID, and hash.

2 Okay. That's one of the steps in the process?

3 A. Yes, that's what it says. I mean -- I'm sorry. What
4 was -- was that the question?

5 Q. Okay. That was a question and you answered it. Thank
6 you.

7 A. Okay.

8 Q. And what the collection agents do, among other things, is
9 request and download a piece of the file and check those pieces
10:55:01 10 by cryptographic hash; isn't that true? That's what
11 Stroz Friedberg understood to be happening based on what you
12 told them?

13 MR. OPPENHEIM: Objection, foundation. He can't
14 testify what Stroz Friedberg understood.

15 THE COURT: I understand, foundation. Sustained.

16 BY MR. BRODY: (Continuing)

17 Q. After meeting with you and your colleagues, the report
18 that Stroz Friedberg wrote stated that the collection agents
19 were going to request and download pieces of the file and those
10:55:44 20 pieces would be checked by cryptographic hash.

21 It's on page 6 of the document, HL 176, which is page
22 -- it's the paragraph right below the figure, the last
23 sentence. I'm sorry, I pointed to the wrong passage.

24 THE COURT: All right. Let's break and take our
25 mid-morning break. We'll come back in about 15 minutes and

1 we'll give Mr. Brody an opportunity to reorganize.

2 All right. Thank you very much. You're excused.

3 NOTE: At this point the jury leaves the courtroom;
4 whereupon the case continues as follows:

5 JURY OUT

6 THE COURT: Anything before we break?

7 MR. BRODY: No, except my sincere apologies.

8 THE COURT: No, just focus a little bit, and we'll
9 get there.

10 MR. BRODY: Yeah.

11 THE COURT: All right. And you're, again, in the
12 middle of your testimony. So don't discuss it while you're on
13 break. All right?

14 Okay. All right. Thank you all.

15 We're in recess.

16 MR. BRODY: Thank you.

17 NOTE: At this point a recess is taken; at the
18 conclusion of which the case continues in the absence of the
19 jury as follows:

11:20:18 20 JURY OUT

21 THE COURT: All right. Ready for the jury?

22 All right. Joe, let's get our jury, please.

23 NOTE: At this point the jury returns to the
24 courtroom; whereupon the case continues as follows:

25 JURY IN

1 THE COURT: All right. Please have a seat.

2 And, Mr. Brody, please continue, sir.

3 MR. BRODY: Thank you, Your Honor.

4 BY MR. BRODY: (Continuing)

5 Q. Home stretch, Mr. Bahun.

6 A. I'm sorry?

7 Q. I said, we're in the home stretch.

8 A. All right.

9 Q. So we were on Exhibit 130.

11:21:23 10 A. Yes.

11 Q. That's the Stroz Friedberg report. And I think I had
12 asked you to confirm that the understanding -- that Stroz
13 Friedberg reported that you guys were going to be downloading
14 pieces of these files from the peers and cryptographically
15 hashing them. And I meant to direct you to a passage where I
16 thought that was said, but I messed it up. So let me get the
17 right page.

18 If you go to page 9 of the exhibit, page 7 of the
19 document, and the paragraph above that figure.

11:22:22 20 The second sentence reads: Also, unlike a standard
21 P2P client, the collection agent requests and download only a
22 portion of a shared file from each peer, typically around 512
23 kilobytes. These individual pieces are verified by SHA-1
24 cryptographic hash values to be part of the original targeted
25 work, and after the content is confirmed to be part of the

1 original targeted work the download is stopped.

2 Do you see that passage?

3 A. Yes.

4 Q. And that's what Stroz Friedberg reported to RIAA and MPAA,
5 right?

6 A. Yes, that's what the document says.

7 Q. Okay. And there's nothing in that passage that says we're
8 going to do it for RIAA, but not for MPAA? Or for MPAA, but
9 not -- we're not going to do it for one and not the other? It
10 doesn't differentiate between the parties here, does it?

11 A. I don't see any text -- no, I don't see any that
12 differentiates here.

13 Q. Okay. And in fact, you guys set up a -- sort of a -- some
14 more of these screenshots. You actually showed them how that
15 was going to turn up in the activity logs.

16 Do you recall that?

17 MR. OPPENHEIM: Are you referring to the document?

18 MR. BRODY: Yes.

19 MR. OPPENHEIM: So you're saying he -- no foundation.
20 He didn't create these documents, the Stroz document.

21 THE COURT: Identify the document, the graph you want
22 him to look at.

23 MR. BRODY: Sure.

24 BY MR. BRODY: (Continuing)

25 Q. We're -- all right. Can you look at page 12 of the

1 document -- of the exhibit? At the bottom.

2 THE COURT: Is it on page 12 or page 30? Where --

3 MR. BRODY: It's page 12 of the exhibit, page 10 of
4 the document and HL 180.

5 THE WITNESS: Okay.

6 MR. BRODY: Okay.

7 THE COURT: Go ahead.

8 BY MR. BRODY: (Continuing)

9 Q. At this point Stroz Friedberg reports that you were going
11:24:35 10 to be providing an XML file called Content Info. And that's
11 one of the files we looked at yesterday?

12 A. Yes.

13 Q. And that that was going to include the name SHA-1 hash
14 value, size of the target file, as well as how much of the
15 infringing work was shared by that user and the portion
16 downloaded and hash verified by the collection agency -- agent,
17 I'm sorry?

18 A. Yes.

19 Q. And then on the next page, there is a screenshot of one of
11:25:04 20 those reports. And it actually shows 1,024 kilobytes
21 downloaded and verified, right?

22 A. Yes, that's what is displayed here in the diagram.

23 Q. And that too was reported to RIAA and MPAA?

24 A. Yes.

25 Q. And that passage does not differentiate between how that

1 was going to be done for the two parties? It doesn't say,
2 we're doing it for the record labels, but not for the motion
3 picture folks, or vice versa?

4 There is nothing like that in the passage, is there?

5 A. Not in the way you described. But if you look on the
6 screenshot -- oh, I am sorry, okay.

7 Q. Can we turn to Exhibit -- Defendant's Exhibit 89, which is
8 in evidence. And this is the report of Harbor Labs, which is
9 the second of these two companies.

11:26:19 10 And I think you told us that you were the contact,
11 one of the contact people for Harbor Labs as well as Stroz
12 Friedberg, right?

13 A. Yes.

14 Q. That original document we looked at, the P2P enforcement
15 document that you folks prepared, that was April of 2012,
16 right?

17 A. Can I turn to the document?

18 Q. Can you trust me on that one? I'm happy to point you to
19 it, but it was April of --

11:27:15 20 A. If that's what it says on the document, then yes.

21 Q. Okay. And the one we just looked at, the Stroz Friedberg
22 report, that was October of 2012. Do you recall that?

23 A. Again, I'll assume that it's on the document.

24 Q. You will trust me on that one?

25 A. Yes.

1 Q. I promise you Mr. Oppenheim will jump down my throat if I
2 got it wrong.

3 A. Okay.

4 Q. The Harbor Labs report, Exhibit 89, that's December of
5 2013, right?

6 A. Yes, that's the date.

7 Q. So together these three documents cover a period of about
8 a year-and-a-half?

9 A. Correct.

11:27:50 10 Q. Okay. Now, the Harbor Labs folks at the time of their
11 report, they also understood or at least they reported that you
12 would be downloading a piece of a file and hashing it, right?

13 A. I don't know, actually.

14 MR. OPPENHEIM: Objection, no foundation. Again, he
15 didn't write this document.

16 THE COURT: Overruled. His answer is, I don't know.
17 He is a contributor to the study.

18 So go ahead, ask your next question.

19 MR. BRODY: Sure.

11:28:28 20 BY MR. BRODY: (Continuing)

21 Q. If you could turn to page 4 of the document, of the
22 exhibit.

23 A. Okay.

24 Q. Could you blow up the paragraph -- the paragraph that
25 begins: The following conditions. And then the three numbered

1 paragraphs.

2 I'm sorry, could you blow up the paragraph that
3 begins the: The following conditions. And then the three
4 numbered paragraphs.

5 At this point in the report, Harbor Labs explains
6 that the following conditions are assumed for the correctness
7 of the design.

8 And the second condition is that the same torrent
9 file or a torrent file with a matching hash that was used to
11:29:19 10 download the content for the verification step -- verification
11 step is the Audible Magic step -- is also used for downloading
12 a complete piece from a file sharer for the evidence generation
13 step.

14 Do you see that passage?

15 A. Yes.

16 Q. Okay. And again, this is what Harbor Labs was reporting
17 they had concluded after their assessment of the process,
18 right?

19 MR. OPPENHEIM: Objection, vague and ambiguous. What
11:29:51 20 process?

21 THE COURT: This is what's written in the report.

22 BY MR. BRODY: (Continuing)

23 Q. It's what's written in the report, right?

24 THE COURT: That's what's written on the document?

25 A. Yeah, the document -- I mean, it's here in front of me,

1 so, yes.

2 Q. And they were getting their information from you, and I
3 guess they reviewed the Stroz report as well, right?

4 A. Yes.

5 Q. Okay. And do you recall being told that they thought that
6 this was important enough that you needed to institute testing
7 to make sure it was happening, this piece download?

8 A. I'm sorry, which -- what are you referring to?

9 Q. Do you recall being told that they thought it was
10 important enough to make sure --

11 THE COURT: Who is "they"?

12 Q. I'm sorry. Harbor Labs thought it was important enough,
13 this downloading of pieces from the user computers, the peer
14 computers, do you recall them saying they thought that you
15 needed to test your system to make sure that that was happening
16 and it was happening accurately?

17 A. No.

18 Q. Okay. Could I direct you to page 9 of the exhibit.

19 MR. OPPENHEIM: I am going to -- I am going to
11:31:25 20 object. He asked him what he was told --

21 THE COURT: Stop, stop. There is no question
22 pending. He has directed him -- we don't have a question
23 pending.

24 MR. OPPENHEIM: I think he's going to try to impeach
25 him based on -- fine, Your Honor. Then I will object.

1 BY MR. BRODY: (Continuing)

2 Q. Now, the document says that -- it's in the third paragraph
3 from the bottom: When new agents are released, they should, at
4 the very least, be tested against a dishonest BitTorrent client
5 that uploads incorrect pieces. The MarkMonitor design should
6 catch these faulty pieces during the check of the SHA-1 hash,
7 an end-to-end test where this behavior is verified as
8 essential.

9 Were you told that that was something you should be
10 doing?
11:32:34

11 A. I don't think I can answer the question with a simple yes
12 or no.

13 THE COURT: It's not does that appear in the
14 document. He was asking a separate question of whether you
15 were told by the group about this issue.

16 Is that the question.

17 Q. Right. Whether by Harbor Labs, or RIAA, or anybody, that
18 you should be --

19 A. But I think that this is being taken out of context.
20 That's why I'm having --

21 THE COURT: So you can't answer the question the way
22 it is --

23 THE WITNESS: Okay. I can't -- yeah, I can't answer
24 the question.

25 BY MR. BRODY: (Continuing)

1 Q. You can't answer the -- were you told that that
2 recommendation had been made by Harbor Labs, the one I just
3 read?

4 THE COURT: Well, did you read this report? You read
5 this?

6 THE WITNESS: I don't believe I have ever seen this
7 report --

8 THE COURT: Okay.

9 THE WITNESS: -- in this format.

11:33:42 10 BY MR. BRODY: (Continuing)

11 Q. I know. Now I'm asking you whether anybody conveyed to
12 you the information that was in the report?

13 Did anybody tell you that that recommendation had
14 been made?

15 A. Yes, in a different format. This information -- like I
16 said, I don't believe I've seen in particular document before.

17 But, again, it's taken out of context. Sorry.

18 Q. All I'm asking --

19 THE COURT: Ask your next question.

11:34:11 20 MR. BRODY: That's all I have got left. I appreciate
21 your time.

22 THE COURT: Redirect.

23 MR. OPPENHEIM: Thank you, Your Honor.

24 REDIRECT EXAMINATION

25 BY MR. OPPENHEIM:

1 Q. Why don't we start right there, Mr. Bahun. Do you want to
2 put that document into context, please.

3 A. Sure. So this document appears to be a full copy of
4 Harbor Labs' report, which I don't believe I have seen
5 previously. And it's specifically related to the Copyright
6 Alert System, which was not in any way and did not involve Cox.

7 Q. I would like to kind of for a moment expand our view from
8 very specific documents and talk big picture.

9 A. Okay.

11:35:10 10 Q. There was a program for CAS, right?

11 A. Yes.

12 Q. And non-CAS, for the RIAA, correct?

13 A. Correct.

14 Q. And within CAS there was also a component for the motion
15 picture studios, correct?

16 A. Yes.

17 Q. Now, within CAS, for the RIAA and the MPAA, can you --
18 were those programs the same for you, for MarkMonitor?

19 A. No.

11:35:44 20 Q. So MarkMonitor was doing different things for the movie
21 studios than it was for the record companies; is that right?

22 A. Yes.

23 Q. We looked at a Stroz Friedberg report, and a Harbor Labs
24 report, and a document for the MPAA and RIAA from MarkMonitor.

25 Do you remember those three exhibits?

1 A. Yes.

2 Q. What were those for? Was it for non --

3 THE COURT: It's leading. And what was it for.

4 MR. OPPENHEIM: Sorry, I apologize, Your Honor.

5 THE COURT: Go ahead. The first part of the question
6 was just fine.

7 MR. OPPENHEIM: You're right.

8 BY MR. OPPENHEIM: (Continuing)

9 Q. What were those documents for? Which program?

11:36:36 10 A. Those were all for the Copyright Alert System.

11 Q. And do those documents -- is there any aspect of those
12 documents that you -- strike that.

13 Were those documents prepared for the program that
14 was collecting evidence for Cox?

15 A. No.

16 Q. At some point in time did you become aware of -- well,
17 strike that.

18 You indicated that you had never seen DX 89, the
19 Harbor Labs report there, right?

11:37:16 20 A. I don't believe so. I have a recollection -- and I don't
21 think -- I can't remember why, but I don't think I was allowed
22 to see at the time for the full report. I got a summarized
23 portion of it. Yeah.

24 Q. And can you describe that summarized portion that you got.

25 A. Yeah. I mean, the main focus with us after the review and

1 the report took place was to ask about the recommendations that
2 were specifically made by Harbor Labs and give us a chance to
3 respond to those, whether or not those were things we already
4 had in place and, you know, are these things that we had
5 investigated before, that sort of thing.

6 So we were provided with the recommendations, at
7 least a summarized version of what I think is described maybe
8 in more words in this particular exhibit. And then we
9 evaluated that and provided recommendation -- or provided our
10 responses to the recommendations.

11:38:13

11 Q. So you saw a document that had recommendations and you
12 responded to it?

13 A. Yes.

14 Q. Can I ask you to take a look at DX 153? That would be in
15 the binders, please, or I can hand it up if that is easier. I
16 don't know that's in that binder, actually.

17 Oh, it's in the defendant's binder? Okay.

18 A. I guess I will just look at this.

19 THE COURT: Is that the entire exhibit, one page?

11:38:57

20 MR. OPPENHEIM: We went double-sided. So one page,
21 two sides.

22 THE COURT: Okay.

23 BY MR. OPPENHEIM: (Continuing)

24 Q. Do you recognize that document, Mr. Bahun?

25 A. Yes.

1 Q. And what is that document?

2 A. That is the response that we prepared and provided to the
3 executive summary of -- from Harbor Labs.

4 MR. OPPENHEIM: Your Honor, subject to the
5 confidentiality issues that we've discussed, I'd like to move
6 this in evidence.

7 THE COURT: All right. It's received.

8 MR. BRODY: No objection.

9 THE COURT: Thank you.

11:39:31 10 BY MR. OPPENHEIM: (Continuing)

11 Q. And can you just kind of briefly walk the jury through
12 what it is you did with this response to the Harbor Labs
13 summary.

14 A. Sure. So this -- I mean, this response is kind of an
15 outline. It's structured with bullets to make it easy to
16 identify. Kind of each bullet represents Harbor Labs'
17 recommendation. And just below that it identifies
18 MarkMonitor's response there in bold.

19 Do you want me to go through them or --

11:40:07 20 Q. If you can do it reasonably quickly, that would be great.

21 A. So the short version is, for each of these, a response
22 identified things that we were already doing to address these
23 recommendations.

24 And for many of them, they had been processes that we
25 had in place for a long period of time. And so, for whatever

1 reason, during the review they may have overlooked or not
2 explicitly seen the elements related to these recommendations.

3 But by providing this response, we were able to make
4 that information clear to them so that they knew what we were
5 doing and what we had in place.

6 Q. Subsequent to -- I'm sorry, what -- whatever happened with
7 -- what did you do with DX 153 after you created it?

8 A. I believe this was sent to -- I believe it was sent to
9 individuals at MPAA and RIAA who were directly involved with
10 the Copyright Alert System. And they, I believe, delivered
11 this to Harbor Labs. I don't think we delivered it directly to
12 Harbor Labs.

13 Q. But it was provided to Harbor Labs, you believe?

14 A. I believe so, yes.

15 MR. BRODY: Objection.

16 THE COURT: I mean, is that just a guess, or is that
17 -- do you have reason -- reasonable belief that that occurred?

18 THE WITNESS: We were asked to produce this specific
19 document. So we were provided the recommendations, and we were
20 told, you know, look, some of these recommendations need a
21 response. Can you put together a document so that we can -- so
22 my understanding, based on why we were asked to create this,
23 was that it was given to Harbor Labs so that they had that
24 information.

25 THE COURT: All right. That will be received.

1 Objection is denied.

2 Go ahead.

3 BY MR. OPPENHEIM: (Continuing)

4 Q. Mr. Bahun, was there any other follow-up subsequent to
5 this in terms of other Harbor Labs concerns that you're aware
6 of?

7 A. No.

8 Q. Looking at DX 89, the Harbor Labs report for one minute,
9 please. Can you just look at the first line of that.

11:42:34 10 A. DX 89? The first sentence under the overview?

11 Q. Yes.

12 A. Okay.

13 Q. Reading that sentence, can you determine who this overview
14 was commissioned by or requested by?

15 A. Yes, the Center for Copyright Information.

16 Q. And do you understand who was a participant -- well, let
17 me back up.

18 Do you know what the Center for Copyright Information
19 was?

11:43:07 20 A. Yes.

21 Q. What was it?

22 A. It was an independent group formed to provide transparency
23 and some overview of the Copyright Alert System.

24 Q. And do you know who sat on the Board or directed the
25 operations of CCI in terms of industries?

1 A. Oh, in terms of industries? I don't know the individuals,
2 but, yes, the RIAA and the MPAA.

3 Q. Were the ISPs represented on the Board of CCI?

4 A. I believe so. But I -- again, I don't know the specific
5 individuals.

6 Q. Did you have any input into the creation of this -- strike
7 that.

8 Were you ever given a draft of the Harbor Labs report
9 in order to edit or do anything with of any sort?

11:44:13 10 A. No.

11 Q. I'd like to turn to the Stroz report, please. I believe
12 that is DX 130.

13 MR. BRODY: Your Honor, as a general matter, I'd ask
14 if we could watch the leading questions.

15 THE COURT: I'm sorry?

16 MR. BRODY: I said, as a general -- I don't want to
17 pop up every time, but if we could watch the leading questions,
18 I think that would be helpful.

19 THE COURT: All right. Thank you.

11:44:54 20 Yep, let's not lead.

21 BY MR. OPPENHEIM: (Continuing)

22 Q. What role did you play in drafting this report?

23 A. None.

24 Q. Who did draft this?

25 A. The -- I believe the folks at Stroz Friedberg.

1 Q. And who was it created for?

2 A. I believe this one was also for CCI.

3 Q. And -- I'm sorry, I didn't meant to interrupt. Please
4 finish.

5 A. No, I said CCI, the Center for Copyright Information.

6 Q. And which program of the RIAA -- strike that.

7 Which program did this apply to?

8 A. The Copyright Alert System.

9 Q. Would you turn to page 130. It's DX 130-0013, please.

11:46:17 10 A. Yes.

11 Q. Mr. Duval, can we expand on the image there of the
12 screenshot?

13 Do you recall being asked questions about this
14 screenshot?

15 A. Yes.

16 Q. And looking at this screenshot, can you tell whether it's
17 a screenshot that's related to music content or to movie
18 content?

19 A. Yes.

11:46:49 20 Q. How can you tell?

21 A. Because it says at the bottom: Type - movie. And it also
22 lists the film studio and the file name.

23 There's a number of components here that -- I mean,
24 the file size. There's a number of elements to this that
25 clearly indicate that it's video or film content.

1 Thank you for asking that. It was like an itch I
2 couldn't scratch before.

3 MR. BRODY: Your Honor, and I move to strike the last
4 answer.

5 THE COURT: Strike the last answer -- last part of
6 the last answer. It wasn't responsive to a question.

7 So just answer the questions.

8 THE WITNESS: Sorry. Yeah.

9 BY MR. OPPENHEIM: (Continuing)

11:47:38 10 Q. Let's turn to DX 17, the MarkMonitor report to the RIAA
11 and MPAA, please.

12 A. Okay.

13 Q. Do you recall being asked questions about this document?

14 A. Yes.

15 Q. Can you describe why this document was created?

16 A. Yeah. I believe that this document was created at the
17 time related to helping multiple people involved understand
18 some of the elements that were involved in the Copyright Alert
19 System from MarkMonitor's perspective. Like the services that
11:48:29 20 we provided specific to the Copyright Alert System. Yeah.

21 Q. Who is this -- which program was this prepared for?

22 A. The copyright alert program. I mean, this -- internally,
23 we would call it a program, but it's the set of services we
24 were providing specific to the Copyright Alert System.

25 Q. I'd like to turn to -- one moment, please.

1 Earlier I believe you indicated that the movie
2 studios and the record companies had a different process; is
3 that right?

4 A. Yes.

5 Q. Okay. Can you describe --

6 MR. BRODY: Objection, Your Honor.

7 THE COURT: Overruled.

8 BY MR. OPPENHEIM: (Continuing)

9 Q. Can you describe why they had different processes?

11:50:12 10 A. Yeah. So, I mean, there can be multiple reasons. There
11 are some differences between music content and video content.
12 One of the -- I mean, it -- I think it's important to
13 understand that even with some of the differences, the elements
14 and steps taken to collect this evidence and provide this data,
15 as far as the notice-sending process and the general -- like
16 the most critical pieces of data, they're the same.

17 The additional steps are really to collect additional
18 data that can be used for other types of analysis and -- yeah.
19 Things that aren't critical to the notice sending or the
11:51:02 20 verification and evidence collection.

21 Q. I believe that in your cross-examination the term "Movie
22 Labs" came up. Do you recall that?

23 A. Yes.

24 Q. Can you describe what Movie Labs is?

25 A. Movie Labs is a non-profit organization that has existed

1 for a number of years. They do a lot of research on technology
2 that exists and, in some cases, you know, issues that exist and
3 the kind of technology involved. And they write different
4 papers to help inform, you know, the industry, primarily the
5 movie industry. That's why they're called Movie Labs.

6 But, you know, some of their evaluation of technology
7 obviously applies beyond that. So ...

8 Q. And in your experience, would Movie Labs be involved in
9 looking at the kind of data that you were collecting under CAS
10 with the additional data being downloaded?
11:52:03

11 A. Yes. I mean, they -- yeah, definitely.

12 Q. I'd like to turn to the RIAA agreement with MarkMonitor.

13 Okay. There are several of them. I want to start
14 with the one that's probably in your white binder, which
15 appears as PX 004.

16 And can we turn to Appendix A, please.

17 A. Yes. Sorry, there.

18 Q. This is a document we looked at yesterday, do you recall?

19 A. Yes.

11:53:28 20 Q. Can we highlight -- that's fine, including the Cox line a
21 little further down, please. Just enlarge it. Great.

22 And what's the Cox line there per month in the
23 anticipated notice volume?

24 A. 7,200.

25 Q. Okay. And what is -- I want to go to the first page of

1 this agreement. What is the date that you entered into this
2 agreement?

3 A. February 15, 2012.

4 Q. Okay. Let's remember that. Let's now turn to PX 327,
5 please. You don't have that in front of you, but let's just
6 call it up on the screen and publish, please.

7 Yes, 327, I believe. Okay.

8 THE COURT: Is that in evidence?

9 MR. OPPENHEIM: I believe it was put into evidence
10 yesterday.

11 THE COURT: Yeah, is it?

12 MR. OPPENHEIM: Excuse me, earlier, yes.

13 THE COURT: All right. It's in. Yeah, we have it as
14 being in.

15 MR. OPPENHEIM: Okay. You got me worried there.

16 THE COURT: I'm sorry.

17 BY MR. OPPENHEIM: (Continuing)

18 Q. Have you ever seen this document before?

19 A. No.

11:54:48 20 Q. And looking at this document, which I realize you haven't
21 seen before, can you see the -- do you know who Vicki --
22 Victoria Sheckler is, by the way?

23 A. Yes.

24 Q. And who is she?

25 A. Vicki works with the RIAA. She was one of the people that

1 I've interacted with throughout the providing of these
2 services, yeah.

3 Q. And do you see who the other -- who the From line is here
4 in -- let's go down to the one below that, it says: Randy
5 Cadenhead.

6 Do you know who he is?

7 A. No, I don't.

8 Q. But do you see his e-mail address?

9 A. Yes.

11:55:30 10 Q. Do you see it says @cox.com, right?

11 A. Yes.

12 Q. And can you read the sentence that Mr. Cadenhead wrote
13 that starts with: They think?

14 MR. BRODY: Objection, Your Honor. This document is
15 already in evidence. The witness has never seen it. He
16 doesn't even know who the people are.

17 THE COURT: He's going to ask him whether he has
18 anything to say about it. Overruled.

19 BY MR. OPPENHEIM: (Continuing)

11:55:57 20 Q. You can just read that, Mr. Bahun.

21 A. It says: They think -- they think that we can try
22 accepting 600 per weekday, subject to unexpected call concerns
23 that might arise.

24 Q. Okay. Do you know anything about that?

25 A. I don't. I'm not even quite sure who the "they" is in

1 this sentence.

2 Q. Okay. What's the date of that e-mail?

3 MR. BRODY: Your Honor, I object to the question. I
4 object to the line of questioning.

5 THE COURT: Overruled. You may answer the question.
6 BY MR. OPPENHEIM: (Continuing)

7 Q. You can answer the question.

8 A. I'm sorry, I think you asked me the date. It's Thursday,
9 April 18, 2013.

11:56:45 10 Q. So that was -- was that before or after you entered into
11 the contract that we just looked at with the RIAA?

12 A. It's more than a year after the date on the contract.

13 Q. So now let's turn to -- let me get my exhibits right here.
14 DX 86, please.

15 A. DX 86?

16 Q. Okay. So what is -- what is the date of this agreement?

17 A. March 22, 2013.

18 Q. And look at Appendix A again, please. And indicate what
19 the Cox number, the anticipated number, is, please.

11:58:08 20 A. 9,000 a month.

21 Q. And is this before or after the e-mail we just looked at a
22 moment ago?

23 A. The agreement is before the date that was on that e-mail.

24 Q. Staying in that agreement for the moment, let's look at
25 Appendix B, I believe was the one you were looking at with

1 Mr. Brody; is that right?

2 Oh, I'm sorry, let's look -- I'm sorry, he was
3 showing you DX 87. I thought we were in 86. But let's go to
4 87 and let's look at page 0010, please.

5 A. Okay.

6 Q. And can you explain what this page is in this contract.

7 A. Yeah. So for whatever reason, I can't recall the exact
8 reason, but Appendix B was an excerpt of an RFP response
9 related the Copyright Alert System.

11:59:48 10 Q. Did you -- what aspect of Appendix B was a contractual
11 obligation for MarkMonitor?

12 MR. BRODY: Objection.

13 THE COURT: What's the basis --

14 MR. BRODY: It asks for a legal conclusion.

15 THE COURT: He can ask what's his understanding of
16 the document. Your exception is noted.

17 THE WITNESS: I would need -- to be certain, I would
18 need to look at the SW and see where Appendix B was referenced.

19 THE COURT: Yeah, rephrase your question. I am not
12:00:30 20 sure what your point is. What did he believe was MarkMonitor's
21 response to this should be, or where --

22 BY MR. OPPENHEIM: (Continuing)

23 Q. Was the response -- did you understand that the response
24 to the RFP was part of the contract and what you were doing for
25 the RIAA?

1 A. No, I don't believe so.

2 Q. And I used the term "RFP." What is that?

3 A. Sorry, that stands for request for proposal.

4 Q. Still looking at that appendix, please. One moment.

5 Let's move on. I am taking too much time on that.

6 Earlier you recall that Mr. Brody was asking you
7 questions about the absence of a folder of Gnutella hashes. Do
8 you recall that?

9 A. Yes.

12:02:15 10 Q. Can you explain why that is.

11 A. Well, I think I may have mentioned before that, you know,
12 when we're looking at song files, we often find the same file.
13 And you can confirm that based on the hash across multiple
14 peer-to-peer networks.

15 And so, in the case of the song files that we put on
16 that drive to provide, it contains, you know, one copy of each
17 unique song file.

18 And, yeah, the majority of which on that drive are --
19 pertain to BitTorrent because BitTorrent had the largest volume
12:02:52 20 of unique music files.

21 Q. Earlier you were asked questions about Audible Magic
22 levels. Do you recall that?

23 A. Yes.

24 Q. Can you describe what your understanding is as to the
25 reliability of level one, which the RIAA was using, you said?

1 A. Yes. I don't believe the correct terminology is levels
2 with Audible Magic. I think they -- the terminology I have
3 heard is "type." And type -- I don't -- I am not aware of any
4 difference in accuracy between the different types.

5 My understanding is they have a different
6 methodology, but based on my experience I've not seen
7 inaccuracies regardless of the type.

8 MR. BRODY: Your Honor, could -- I would move to
9 strike the answer. I would appreciate it if we could go back
10 and lay some foundation. I thought he testified on cross that
11 he didn't know about this.

12 THE COURT: Overruled. This has all been subject to
13 extensive testimony already, including -- so --

14 MR. BRODY: That's for truth of the matter. Thank
15 you.

16 THE COURT: -- overruled.

17 BY MR. OPPENHEIM: (Continuing)

18 Q. Now, let's turn to -- I believe there was testimony about
19 levels with respect to -- not what Audible Magic was doing, but
12:04:19 20 what MarkMonitor was doing.

21 Do you recall that?

22 A. Yes.

23 Q. And you indicated, I believe, that Level 1 was used for
24 GDPI; is that correct?

25 A. Yes.

1 Q. Can you describe whether or not using -- describe the
2 reliability of level one for doing that analysis from your
3 perspective.

4 A. It's very reliable. The reason we use it is because of
5 its reliability. So there are possibilities for small margins
6 of error with Level 1, which is a big part of why we would
7 never send notices based on that data.

8 However, the broad set of data gives us an extremely
9 accurate view of the overall infringing activity that we see
10 around these files on the peer-to-peer networks.

11 Q. And what kinds of clients do you provide that information
12 to on a regular basis?

13 A. I mean, the film, TV, music companies. There is a number
14 of other companies that are interested in the analysis of that
15 data because they are -- you know, they're relying on the
16 accuracy of it to tell them how much piracy is occurring for
17 different types of content by different users on those
18 networks.

19 Q. Do you recall there ever being any criticism of the data
12:06:00 20 you've obtained through that GDPI process?

21 A. None that I recall specifically, no.

22 Q. There was also some testimony about the difference between
23 using Level 4 or Level 5 for the RIAA. Do you recall that?

24 A. Yes.

25 Q. Did you ever make a recommendation to the RIAA as to what

1 level they should use for purposes of collecting evidence?

2 A. It's possible that that came up in discussions.

3 Q. And do you recall what you -- what you said?

4 MR. BRODY: Objection.

5 THE COURT: Don't speculate. If you don't recall any
6 conversation, then just say, I don't recall. Or -- yeah.

7 BY MR. OPPENHEIM: (Continuing)

8 Q. In your experience, when you advise -- you regularly
9 advise the content companies that retain MarkMonitor about what
10 services they should use from MarkMonitor, correct?
12:07:06

11 A. Yes.

12 Q. And in the course of providing that advice, what advice do
13 you give as between Level 4 and Level 5?

14 MR. BRODY: Can we have something to tie this to the
15 actual --

16 THE COURT: Well, he has already testified that his
17 position involved sales as well as other matters. So I am
18 going to allow the question. Your exception is noted.

19 MR. BRODY: Okay.

12:07:30 20 A. Yeah. So when you're looking at a notice program, I think
21 it's important to note that this is not -- it's not isolated to
22 the RIAA.

23 So when you look at industry standards, there are
24 millions of these infringement records collected in a year and
25 millions of notices that get sent. And the overwhelming

1 majority of those are done at a Level 4. And the reason is, is
2 that once you have collected all of the data and information
3 using Level 4 with full verification of the file that is being
4 distributed, it's unnecessary to take any additional steps.
5 You have all the information.

6 You've downloaded the song in its entirety and done a
7 full inspection of that file to determine that it is, in fact,
8 an infringing copy of the song that you were looking for.

9 You've then gone back to the network and had -- you
12:08:33 10 can think of it as direct conversations with the individual
11 peers. And they have told us, we have this file.

12 We then take that hash, match it over here, and we
13 can say, this is definitely the file that we downloaded and
14 expected.

15 And then they're telling us, we have this file and
16 this is how much we're distributing.

17 So at that point you have a full view of the evidence
18 and the data involved. So going beyond that point for notice
19 sending, it would be -- it's just unnecessary.

12:09:07 20 BY MR. OPPENHEIM: (Continuing)

21 Q. Based on the documents that you went through with
22 Mr. Brody, the information you saw, and your past experience,
23 has any of that caused you to believe that the evidence that
24 you collected was in any way inaccurate or inadequate?

25 A. No.

1 MR. OPPENHEIM: No further questions, Your Honor.

2 THE COURT: All right. May this witness be excused?

3 All right. You are excused with our thanks. Please
4 don't discuss the testimony you have given with anyone until
5 our trial is over. All right?

6 THE WITNESS: All right.

7 THE COURT: Have a good day.

8 THE WITNESS: Thank you.

9 NOTE: The witness stood down.

12:10:04 10 THE COURT: All right. Next witness.

11 MR. ZEBRAK: Plaintiffs call Dr. George McCabe.

12 NOTE: The witness is sworn.

13 THE COURT: All right. Good afternoon, Mr. McCabe.
14 Please proceed, Mr. Zebrak.

15 MR. ZEBRAK: Thank you, Your Honor.

16 GEORGE McCABE, called by counsel for the plaintiffs,
17 first being duly sworn, testifies and states:

18 DIRECT EXAMINATION

19 BY MR. ZEBRAK:

12:11:02 20 Q. Good day, Dr. McCabe.

21 A. Good day.

22 Q. For the record, will you please state your full name.

23 A. George McCabe.

24 Q. Where do you work, sir.

25 A. Purdue University.

1 Q. What is your position at Purdue University?

2 A. I'm a professor of statistics.

3 Q. And who retained you in this litigation?

4 A. Plaintiffs' counsel.

5 Q. And at a very high level, could you please tell the jury
6 what you were retained to do.

7 A. Yes. I was asked to complete two analyses.

8 Q. And what were they, at just a high level, sir?

9 A. One was a work in suit analysis. And the second was a
12:11:43 10 repeat infringer analysis.

11 Q. And were you able to form any opinions on those two topics
12 that you were asked to research?

13 A. Yes, I was.

14 Q. Okay. Well, let's explore your background, and then we
15 are going to dive into those analyses you have done.

16 Dr. McCabe, I'm going to hand up to you what has
17 already been marked as PX 526.

18 A. Thank you.

19 Q. Do you recognize that document, sir?

12:12:18 20 A. I do.

21 Q. And what is it?

22 A. It is a document I prepared. It's called a CV, and it
23 basically lists my background and my accomplishments as a
24 statistician.

25 Q. And is it an accurate summary?

1 A. It is.

2 MR. ZEBRAK: Okay. Your Honor, we move its admission
3 as evidence.

4 THE COURT: Any objection?

5 MR. BUCHANAN: No, Your Honor.

6 THE COURT: All right. It's received.

7 MR. ZEBRAK: Thank you, Your Honor.

8 Mr. Duval, if you could publish the document, please.

9 BY MR. ZEBRAK: (Continuing)

12:12:51 10 Q. Dr. McCabe, this is a 38-page document, correct?

11 A. I believe so.

12 Q. So we're not going to go through it in detail. It has
13 been a long day already. But I would just like to spend a few
14 moments on your background before we move into your analysis.

15 Could you start by telling the jury your educational
16 history?

17 A. Yes. I have a bachelor's degree in mathematics from
18 Providence College. And I have a Ph.D. from Columbia
19 University in mathematical statistics.

12:13:22 20 Q. And has your entire career involved statistics?

21 A. Yes, it has.

22 Q. And where have you spent your career after you obtained a
23 Ph.D. in mathematical statistics?

24 A. I came to Purdue University, and I have been there ever
25 since.

1 Q. And for roughly how long has that been that you have been
2 working at Purdue University?

3 A. It will be 50 years in June.

4 Q. All right. Congratulations.

5 A. Thank you.

6 Q. So at a high level, what responsibilities have you had as
7 a professor of statistics at Purdue University?

8 A. My responsibilities basically consist of three tasks,
9 teaching, research, and service. Sometimes service is called
10 engagement.

11 Q. And what has been the subject matter or matters for your
12 teaching?

13 A. I've taught statistics courses, primarily for graduate
14 students, graduate students, both those getting Master's
15 degrees and Ph.D.s in statistics, and also graduate students in
16 other departments who need to use statistics in their own work.

17 Q. And what generally has been the subject of your research?

18 A. Most of my research has been collaborative. So I work
19 with other researchers who have data that needs to be analyzed.
20 And I'm the one who analyzes their data for them.

21 Q. Okay. Well, we'll get into that in a little more detail
22 in a moment. But I believe you said there was a third area?

23 A. Yes, the third area would be engagement. So for most of
24 my career, from 1970 to 2004, I was the director of an
25 organization called the Statistical Consulting Service, which

1 provided help for people who needed to use statistics within
2 the university. That includes faculty, graduate students, and
3 other people who might need the work, but all internal to
4 Purdue.

5 Q. Okay. Let's turn your attention back to your CV, sir.

6 Is that an accurate recitation of your professional
7 experience?

8 A. Yes, it is.

9 Q. And, Mr. Duval, if you could pan down a little lower.

12:15:57 10 And does that list your teaching positions?

11 A. Excuse me?

12 Q. Dr. McCabe, does that list your teaching positions on the
13 first page?

14 A. Yes.

15 Q. And if you could turn to the next page of the document,
16 Mr. Duval, underneath Professional Activities.

17 And does this list your professional activities and
18 other honors and societies you've been a part of throughout
19 your career?

12:16:36 20 A. Yes, it does.

21 Q. And by the way, where have you been a professor besides
22 Purdue in terms of teaching experience?

23 A. Yeah, I hold an adjunct professorship at the National
24 University of Ireland in Galway. I've had sabbaticals at
25 several different places, I think they're listed on the first

1 page. I was at Princeton. I've been at something called
2 CSIRO, which is a research organization in Australia. A
3 visiting position at University of Berne in Switzerland.
4 Several other places for shorter periods of time.

5 Q. Thank you, Dr. McCabe. And I apologize, I asked you
6 before whether this was a 38-page document, but what page,
7 though, does it begin at with its numbering?

8 A. Oh, page 12.

9 Q. And what does it say at the top of this document?

12:17:44 10 A. Appendix 1.

11 Q. And why does it begin -- well, first of all, what was it
12 an appendix to?

13 A. I don't remember.

14 Q. Well, did you provide a written expert report in this
15 matter?

16 A. Yes.

17 Q. And did that include a copy of your CV?

18 A. That's correct.

19 Q. Okay. Okay. Thank you, Dr. McCabe.

12:18:06 20 So have you written any books in the fields of --
21 field of statistics?

22 A. Yes, I have.

23 Q. Mr. Duval, if you could pan over to that.

24 Are those listed here on your CV?

25 A. Yes, they are.

1 Q. Could you tell the jury something about one of your books.

2 A. Yeah. So the first book listed there, actually the first
3 two entries refer to the same book, but we added a different
4 coauthor.

5 So it's a book that's in its ninth edition. The
6 first edition was in 1989, and we're working on the tenth
7 edition now. It's used by a large number of colleges and
8 universities, both in the United States and elsewhere. It's
9 been translated into several foreign languages.

12:18:59 10 Q. Thank you, Dr. McCabe.

11 And, Mr. Duval, if you could turn to the list of
12 publications on what's numbered page 15.

13 Dr. McCabe, is this an accurate list of publications
14 you've authored during your career?

15 A. Yes, it is.

16 Q. And that begins on page 15 and runs all the way through
17 page 30, about 229 of them; is that correct?

18 A. That's correct.

19 Q. And do these all involve the field of statistics?

12:19:26 20 A. Yes, they do.

21 Q. Have you testified as an expert in litigation previously?

22 A. Yes, I have.

23 Q. And in what field?

24 A. In a variety of fields. Initially, in several suits
25 related to equal employment opportunities, salary, promotion,

1 hiring. More recently, I testified in an issue related to the
2 recall of pet foods that were contaminated.

3 Q. Well, putting aside the subject area of the disputes, what
4 was the purpose for your involvement in those litigations in
5 terms of what you brought to them?

6 A. Basically my job was to take data, analyze it, present the
7 results of my analysis to people who needed to use those
8 results.

9 Q. Were you testifying in the field of statistics in those
10 matters?
12:20:35

11 A. Yes.

12 Q. And in -- apart from expert work in litigation, applying
13 statistics and your work at Purdue, did you have other
14 experience in the field of statistics?

15 A. Yes, I have.

16 Q. And could you elaborate on that a little bit.

17 A. Yeah. So some recent work was on women's bone health and
18 osteoporosis, and the use of botanicals like plums and
19 blueberries to prevent bone loss.

12:21:13 20 I've also recently worked on a project on the use of
21 some plants that are grown by Native Americans in North
22 Carolina that have potential benefits for Parkinson's patients
23 to help with their symptoms.

24 Q. I'm sorry. I didn't --

25 A. Yes, and, you know, many other things.

1 Q. And in those matters that you've been referring to, are
2 you the subject area expert, For instance, in Parkinson's
3 disease or in the other issues you were mentioning?

4 A. No, I'm not.

5 Q. And what is the expertise that you brought to bear in
6 those matters?

7 A. It's my background in applied statistics, which I use to
8 work on the data provided by those people.

9 Q. Sure, and -- well, first of all, let me take a step back.
10 You just mentioned applied statistics, and I'm going to get to
11 that. But can you start off and -- you know, many of us --
12 many of us have probably heard the word "statistics" before.

13 But as a -- someone who has taught in the field for a
14 very long time, could you explain what statistics is.

15 A. Yes. The way I view it is I use mathematics and I use
16 computing to study data. The study involves analyses that I
17 perform. And part of my role also is then to take the results
18 of my analyses and present them to people who would need to
19 make decisions. That could be the -- a national workshop or a
12:22:57 20 peer review journal. Or, as today, a jury who might -- needs
21 to make a decision.

22 Q. Have you done work on government panels previously?

23 A. Yes, I have.

24 Q. And in what capacity?

25 A. Again, as a statistician or a statistical expert. I

1 worked on the school lunch program, and then several other
2 issues related to health generally.

3 Q. Thank you, Dr. McCabe. Could you explain why statistics
4 is valuable.

5 A. Yes. I think it's valuable because we need to have a
6 solid foundation for our decisions. So some statistics is
7 labeled as decision analysis.

8 Today, we also hear about evidenced-based medicine
9 that when people are treated, we need to have a sound
10 foundation for that treatment. We need to know that it works,
11 and that process involves statistics.

12 So, in general, there's an idea that statistics is
13 used to assist people in making decisions.

14 Q. And, Dr. McCabe, are you being paid for the time you spend
15 working in this case?

16 A. Yes, I am.

17 Q. And are you being paid by the hour?

18 A. Yes.

19 Q. And how much do you charge per hour?

12:24:34 20 A. \$450.

21 Q. Thank you, Dr. McCabe. Is the payment of your fees in any
22 way dependent upon the substance of whatever opinion or
23 opinions you provide?

24 A. No, it is not.

25 Q. And is the payment of your fees in any way contingent upon

1 the outcome of this case?

2 A. No.

3 Q. And, Dr. McCabe, do you have an understanding of roughly
4 how many hours you've spent working on this case thus far?

5 A. Yes. It's more than 200.

6 Q. Your Honor, I would move -- well, I'm -- let me take one
7 step before I proceed there.

8 Dr. McCabe, you mentioned the term "applied
9 statistics." What is that?

12:25:22 10 A. That involves what I described, that it primarily involves
11 collaboration with other researchers who have data that needs
12 what I am able to do for them.

13 MR. ZEBRAK: Your Honor, I would offer Dr. McCabe as
14 an expert in the field of statistics, and allow him to testify
15 as such.

16 THE COURT: All right. Any objection?

17 MR. BUCHANAN: No objection.

18 THE COURT: All right. He will be received for that
19 purpose.

12:25:47 20 BY MR. ZEBRAK: (Continuing)

21 Q. Dr. McCabe, just to be clear, are you providing a legal
22 opinion here today?

23 A. No.

24 Q. Are you an expert in the field of copyright law?

25 A. I am not.

1 Q. Are you an expert in the field of -- or are you an expert
2 in peer-to-peer technology?

3 A. No.

4 Q. But your experience, statisticians are oftentimes retained
5 to apply their statistical expertise on data in which they're
6 not an expert in, you know, the content of that data; is that
7 correct?

8 MR. BUCHANAN: Leading, Your Honor.

9 THE COURT: I'll allow it for --

12:26:25 10 A. That's correct.

11 BY MR. ZEBRAK: (Continuing)

12 Q. Dr. McCabe, did you make any assumptions about any data
13 you reviewed as part of your analysis in this case?

14 A. Yes, I did.

15 Q. And why is that?

16 A. In order to do my analysis, the starting point was
17 collection of data sets. And I assumed that the data speak for
18 themselves, that they -- I took them at face value. I did not
19 collect the data or verify or establish anything else about
12:26:57 20 them. I take them as given at face value.

21 Q. In your experience, is it unusual for you as a
22 statistician to take the data that you're collecting and
23 analyzing at face value?

24 A. That would be the usual standard, yes.

25 Q. Dr. McCabe, do you have any reason to believe that the

1 data that you were given for purposes of your analysis in this
2 case is not reliable?

3 MR. BUCHANAN: Objection, Your Honor. He just said
4 he assumed it was accurate.

5 THE COURT: Yeah, sustained.

6 MR. ZEBRAK: We don't need to -- we can just move on.

7 THE COURT: And we don't need -- you know, counsel
8 have all been making comments about matters today. Let's just
9 ask our questions and not comment on answers or speak back and
10 forth to each other. It is confusing to the jury.

11 Please. Thank you.

12 MR. ZEBRAK: Yes, Your Honor. We're moving right on.

13 BY MR. ZEBRAK: (Continuing)

14 Q. Dr. McCabe, did you prepare any slides to assist you in
15 your testimony today?

16 A. I did.

17 Q. And are those demonstrative slides an accurate summary of
18 your analysis in this case?

19 A. They are.

12:28:17 20 MR. ZEBRAK: Okay. Your Honor, permission to publish
21 the slides.

22 THE COURT: Any objection?

23 MR. BUCHANAN: No, Your Honor.

24 THE COURT: All right, go ahead.

25 BY MR. ZEBRAK: (Continuing)

1 Q. Dr. McCabe, let's turn to the first slide. I believe you
2 said you did -- you had two assignments in this case, a works
3 in suit analysis and a repeat infringer analysis, correct?

4 A. That's correct.

5 Q. Okay. So let's review assignment one, the works in suit
6 analysis. Would you explain to the jury what your assignment
7 was with respect to the works in suit analysis.

8 A. Yeah, so the first line below the title defines the scope
9 of my analysis. Sometimes we -- or I would call that a frame,
10 it's a statistical term. So the frame here is what are called
11 the works in suit. And there are 10,017 of those works.

12 There are four icons below that. And these are the
13 requirements that I used or applied to accomplish the works in
14 suit task.

15 So the first requirement is that the work -- and this
16 is analysis about the works in suit. Again, it's the 10,017
17 works that we're talking about. So that work must in an
18 infringement notice -- an infringement notice during the claim
19 period.

12:29:54 20 The second is that the work in suit should be in a
21 notice that is the third or later notice for a particular
22 subscriber.

23 In other words, I labeled the notices as a first, a
24 second, a third, et cetera. So I only looked at third or later
25 notices.

1 Next, the infringing notice must contain the work in
2 suit.

3 And the fourth requirement is that the infringing
4 file is on a hard drive that was created by MarkMonitor.

5 Q. Dr. McCabe, I would like to draw your attention to the
6 third bullet. A moment ago I believe you said the infringed --
7 well, could you explain what that third bullet is in a little
8 more detail.

9 A. Yes. So the notice contains information. And the
12:30:54 10 information, depending upon the protocol, points either to one
11 work in suit or it can -- in the case of BitTorrent, it can
12 refer to a collection of works.

13 Q. What is the significance to the reference to "infringing
14 file" in that third bullet?

15 A. The infringing file is part of the notice. And that
16 points to -- through these hashes, it points -- it gets us to
17 the works in suit.

18 Q. Do you have an understanding as to whether the infringing
19 file is identified in the notice?

12:31:34 20 A. Yes, it is.

21 Q. And by the way, when we talk about notices, what are we
22 referring to here?

23 A. They are the e-mails sent by MarkMonitor to Cox.

24 Q. Okay. And were you able to form any -- and, first of all,
25 you said that you're not providing any -- you're not testifying

1 as a legal expert today, correct?

2 A. That's correct.

3 Q. So these requirements that you applied here, where did you
4 come up with those requirements?

5 A. In consultation with plaintiffs' counsel.

6 Q. Okay. Who set these requirements?

7 A. These were set as part of my assignment, if you will.

8 Q. Thank you, Dr. McCabe. Let's turn to your conclusions.

9 Were you able to form any conclusions with respect to
12:32:24 10 your works in suit analysis?

11 A. Yes.

12 Q. And did you prepare a slide to overview those conclusions?

13 A. Yes.

14 Q. With respect to the top bar labeled Findings, would you
15 please explain to the jury what your overall findings are?

16 A. Yes. So that top line is a summary of my findings that
17 all of the 10,017 works in suit were qualified.

18 In other words, they satisfied the four requirements
19 that are described on the previous slide and are illustrated on
12:33:02 20 this slide.

21 Q. And could you walk us through this slide one component at
22 a time. What's the checked box next to Claim Period signify?

23 A. So that means that -- if you recall, the previous slide
24 said the first requirement was that the work in suit should
25 appear in a notice during the claim period.

1 So on this slide, the claim period is denoted or
2 described by the yellow bar at the top. It starts February 1,
3 2013, and ends November 26, 2014.

4 And the checkmark means that all of the 10,017 works
5 in suit did correspond to a notice during this claims period.

6 Q. Was the claim period the same claim period for every
7 single plaintiff group in this case?

8 A. No. There is a note below the bars for the years that --
9 for the Sony ATM/EMI claims, the start of the claim period was
12:34:24 10 August 1, 2013, rather than February 1, 2013. But that period
11 was the same, the ending date of the claims period for Sony
12 ATM/EMI was the same as for all the others.

13 Q. And, Dr. McCabe, would you briefly walk the jury through
14 the remaining three checked boxes on this slide.

15 A. Yes. So the second is that -- this issue of the third or
16 later notice for a particular subscriber. So that was
17 satisfied for all of the 10,017 works.

18 That the infringing file in the notice contains the
19 work in suit.

12:35:11 20 And that there is a copy of the work on a hard drive
21 created by MarkMonitor.

22 So all of these -- the four requirements are
23 satisfied. And the term I'm using is that means those works in
24 suit were qualified.

25 Q. Dr. McCabe, what data sources did you use for your

1 analysis in this case?

2 A. Yes, I think I prepared a slide for that. That should be
3 the next one.

4 Q. Or actually, Dr. McCabe, let me ask you a question. A
5 moment ago when you were explaining each of the four
6 requirements for your analyses were satisfied, you used the
7 term "qualified."

8 What does that mean?

9 A. It basically means that the work in suit is connected to a
10 notice. So we could view it the other way around. You start
11 with the notice, it points to the work in suit. So there is a
12 direct connection between those two.

13 And that's what I'm calling qualified, that I can
14 draw the link from the notice to the work in suit.

15 Q. Okay. Well, let's turn back to your data sources, and I
16 can ask you a few questions about that.

17 So what is being depicted in the left column with
18 respect to data sources?

19 A. The left column describes the source of the data sets. So
12:37:04 20 there are three sources, MarkMonitor, Cox, and the plaintiffs.

21 Q. And what data from MarkMonitor was within your analysis in
22 this matter?

23 A. So MarkMonitor is the top data source there. And there
24 are three files listed to the right. The first is the notices
25 or the -- actually, I didn't have the notices, but I had a file

1 that lists the notices and the information contained in each
2 notice. So all that -- these are all data files that I had.

3 So there is a file for notices from MarkMonitor.
4 There is a file for the downloads that MarkMonitor downloaded.
5 And there is a file from MarkMonitor about the Audible Magic
6 procedure or connections to go from hashes to works.

7 Q. And what is depicted with respect to Cox in terms of data
8 from Cox that you considered within your analysis?

9 A. So Cox also provided three data sets. The first one
10 listed there is subscriber identification. So the Cox CATS
11 system has identifiers for subscribers. It was necessary to
12 have that information to be able to perform my analysis.

13 So it's the file itself connected subscriber IDs with
14 notices.

15 The second file is what I have called the ticket
16 file. It's the large file that contains the tickets that Cox
17 recorded in their CATS system.

18 And the third is a file that identifies Cox
19 subscribers as -- I used it to distinguish residential from
12:39:17 20 business subscribers.

21 Q. And when you say the third file, was that the billing
22 information file?

23 A. I am sorry, the billing information file, yes.

24 Q. And, finally, to the right of plaintiffs, there is an
25 Exhibit A and B. What are those two files?

1 A. Right. These two files comprise the works in suit. So
2 the first is a collection of sound recordings, and the second
3 is list of compositions.

4 Q. And I apologize, Dr. McCabe, but would you please
5 elaborate slightly on looking back to the MarkMonitor box, what
6 the middle file is that says Downloads.

7 A. The downloads are the works that -- or it's a list of the
8 works that are on -- that have been downloaded and are on the
9 MarkMonitor generated drive that they prepared.

12:40:16 10 Q. I see. Okay. Thank you, Dr. McCabe.

11 And what did you do with these data sources once you
12 received them?

13 A. My first task was to connect them. And I think the next
14 slide gives an idea of what that involved.

15 Q. And before we turn to that slide, Dr. McCabe, what does it
16 mean to connect data sources generally?

17 A. What that involved was to take -- in each step take two
18 data sets and combine the information into a single data set.
19 So there needs to be a connector to track the information that
12:41:02 20 is shared. There needs to be some sharing of information to
21 merge the files together, basically.

22 Q. And what benefit, if any, is there in being able to
23 connect data sets with respect to then analyzing data?

24 A. That was the way that I performed my analysis, it was
25 necessary to make those connections. In other words, to go

1 from the top notices all the way to the bottom recordings, I
2 had to make a series of connections all the way through.

3 Q. Well, let's look at the next slide then.

4 So these are the data sources that you considered
5 that we just reviewed on the last slide, correct?

6 A. That's correct.

7 Q. Okay. And can you give us some examples of how you
8 connected -- I know it has been a long day already. We are not
9 going to go through all of these. But if you could connect
10 some of these for the jury.

11 A. Yes. So the simplest one would be the one across the top
12 with the three Cox files. So there is a variable or an
13 identifier, it is a piece of the file that identifies a Cox
14 subscriber, and it's called an ICOMS ID.

15 So that identifier is in the left most data file,
16 which is the copy infringement tickets. That's the large
17 ticket file.

18 It's also in the billing information. And the
19 connector is in this subscriber ID, which is the way to connect
20 those three files -- I am sorry -- it's the ICOMS ID. Yeah.

21 Q. Okay. And so what is the purpose of these lines that we
22 see on this? So prior to the animation coming up, we just have
23 your data sources.

24 What's the significance of the lines that then
25 appears when the animation pops up?

1 A. So those are the -- those identify the variable that is
2 used to connect the data sets. Basically, we're merging data
3 sets to combine -- to create a new file that combines the
4 information for the two source files.

5 Q. And then, Dr. McCabe, once you've -- and were you able to
6 make a connection between these data sources to go from the top
7 to the bottom as you described it?

8 A. So going from, let's say, the Cox domain to the
9 MarkMonitor domain, we have notice IDs and subscriber IDs. So
10 there -- that's the way to connect the notices with the
11 subscribers.

12 The notices themselves do not contain an identifier
13 for the subscriber. So we obtained a subscriber ID file from
14 Cox to attach that identifier to the notices.

15 Q. But once you connected all these different data sources,
16 what did you then do with respect to analyzing the data?

17 A. So the analysis is basically to connect the notices with
18 the works in suit. And that's the bottom line of what -- of
19 what I did. And to satisfy these four criteria.

12:44:42 20 Q. Okay. And just before we move on to your second
21 assignment in terms of the repeat infringer analysis, can you
22 remind the jury of your overall finding with respect to the
23 works in suit.

24 A. Yes. My overall finding is at the top of this slide, that
25 all 10,017 works in suit did correspond to a work that

1 satisfied these four requirements.

2 Q. Okay. Let's turn to your second assignment, which you
3 referred to as a repeat infringer analysis.

4 Would you explain to the jury at a high level what
5 your repeat infringer analysis involved.

6 A. Yes. So in contrast to the first task, which was about
7 works or works in suit, this task was about Cox subscribers.
8 In particular, as indicated on the slide, the frame here, if
9 you will, is the 57,600 subscribers that were reported by
10 MarkMonitor. So that's the frame.

11 And again, the analysis is an analysis of those
12 57,600 subscribers and their repeats. So I created a file and
13 counted infringement No. 1, infringement No. 2, et cetera, to
14 be able to look at the repeat pattern of infringements.

15 Q. And are these -- what's the significance of these items
16 that appear below the frame that you defined of the 57,600
17 subscribers reported by MarkMonitor?

18 A. So my task was to describe and analyze the patterns of
19 repeat infringers. That's what I did. So the five icons there
20 indicate five summaries that I generated as part of my
21 analysis. The first is what's the distribution of tickets,
22 meaning how many had one ticket, how many had two tickets,
23 et cetera.

24 I looked at the entries that identified subscriber
25 terminations in the Cox ticket data.

1 I think I mentioned above, the distinction between
2 residential versus business subscribers.

3 And there are also in the Cox data, there were
4 tickets for notices from other rights holders.

5 So again, these are still the 57,600 subscribers
6 reported by MarkMonitor, but my analysis included notices or
7 tickets generated by notices from other rights holders. And it
8 also included, as noted on the last entry, it included tickets
9 that occurred or that were generated before the claim period.

12:48:03 10 Q. Dr. McCabe, you've been discussing use of tickets for this
11 repeat infringer analysis. Whose data is the ticket data that
12 you're analyzing?

13 A. The ticket data is the Cox CATS data.

14 Q. And so, these are Cox's records as to the subscribers who
15 are the subject of MarkMonitor notices; is that correct?

16 A. That's correct.

17 Q. Okay. And let's take these one by one. Let's first look
18 at your slide on distribution of tickets.

19 So would you walk the jury through this slide, first
12:48:47 20 starting at the -- where it appears in black: All tickets.

21 A. So again, that's the frame I use. It's the 57,600
22 subscribers. And I looked at all tickets for those that were
23 contained in the -- what I call the ticket data, the Cox data.

24 The red bar at the top indicates the range of dates
25 that are included in that ticket data file that I received from

1 Cox.

2 So the start date is January 1, 2012, and the end
3 date is December 31, 2014. So there are three years, 2012, '13
4 and '14 that are covered by this analysis.

5 Q. Dr. McCabe, let me ask you a question, if I could draw
6 your attention in blue where it says: Cox Copyright
7 Infringement Tickets.

8 Do you see that?

9 A. I do.

12:49:44 10 Q. How does that relate to all tickets on the top? And
11 I'm sorry, that was a clumsy question.

12 When you say you considered all tickets for this pool
13 of 57,600 subscribers reported by MarkMonitor --

14 A. Yes.

15 Q. -- is it the case that this includes copyright
16 infringement tickets generated from notices from others in
17 addition to MarkMonitor? Is that the --

18 A. That's correct, yes.

19 Q. Okay. And let's take it one frame at a time.

12:50:23 20 So what's being depicted in the column that says 3+
21 with the number beneath it?

22 A. So again, there are -- there's a picture, three or more,
23 and -- there's a picture of three, sorry. And the 3+ means
24 that I counted the number of subscribers that had three or more
25 tickets. And that number is 31,628, given in black below the

1 3+ and the three icons.

2 So of the 57,600 subscribers that are the frame for
3 my analysis, 31,628 had three or more tickets.

4 Q. Okay. And what about the -- if you could move to the next
5 column. Is the idea there that the top bar represents the
6 number of copyright infringement tickets for the 16,818 Cox
7 subscribers depicted beneath it?

8 A. That's correct. So there is -- that's the number, 16,818
9 is the number of subscribers who had six or more tickets.

12:51:43 10 Q. And, Dr. McCabe, is a copyright infringement ticket --
11 what's your understanding of how that relates to an
12 infringement notice?

13 A. My understanding is that when MarkMonitor sent an
14 e-mail -- an e-mail notice, if you will, to the Cox system,
15 that caused a ticket to be generated.

16 Q. Do you know what happens if Cox receives multiple
17 infringement tickets for the same subscriber -- strike that.

18 Do you know what happens when -- in a scenario where
19 Cox receives multiple infringement notices from different
12:52:24 20 parties on a single day for a single subscriber?

21 MR. BUCHANAN: I'm just going to object. I don't
22 think he has been offered as an expert on the system, just on
23 data.

24 THE COURT: All right. Lay a foundation if you want
25 him to testify to that. Sustained.

1 MR. ZEBRAK: Sure.

2 BY MR. ZEBRAK: (Continuing)

3 Q. Dr. McCabe, what's your understanding of what a copyright
4 infringement ticket is?

5 A. My understanding is that it is generated by a notice. I
6 believe it can correspond to more than one notice, but I don't
7 recall a lot of details about that part of the structure.

8 In terms of the data, I treated the entry of a ticket
9 as the basic piece of information that I use to compute this
10 distribution.

12:53:30

11 Q. So this repeat infringer analysis is an analysis of Cox's
12 records? It's its ticket data, however Cox generates that
13 data; is that correct?

14 A. That's correct.

15 Q. Okay. And can you walk the jury through the successive
16 three columns, starting at 10+?

17 A. So for ten or more tickets, we had 8,495 subscribers. For
18 13 or more tickets, there were 5,120 subscribers. And for 14
19 or more tickets, there were 4,404 tickets.

12:54:16

20 Q. Okay. And, Dr. McCabe, I believe you indicated there were
21 a total of five characteristics of these 57,600 subscribers you
22 looked at?

23 A. That's correct.

24 Q. And we just reviewed the first one, distribution of
25 tickets; is that correct?

1 A. Yes.

2 Q. Okay. Let's turn your attention to the next one. What --
3 could you walk the jury through what -- through your analysis
4 that's depicted in this slide.

5 A. Yes. As I mentioned before, I looked at the Cox data and
6 looked at the entries corresponded to terminations. When I did
7 that, I found 13 terminations. So this graphic is an attempt
8 to make a picture out of that finding.

9 So again, we start with the frame, if you will, the
10 57,600 subscribers, and that's the bar on the left-hand side.

11 If you look on the right-hand side, it's a blown-up
12 version of the upper right-hand corner square for the 57,600.
13 And the squares colored yellow with the little icons
14 representing people, they represent subscribers. Actually,
15 those are the 13.

16 Q. And what was the time frame for which you had this Cox
17 ticket data that's the subject of your repeat infringer
18 analysis?

19 A. It's the time frame for the ticket data that we had, which
12:55:56 20 was the three years, 2012, '13 and '14.

21 Q. So turning your attention back to the slide of the
22 distribution of tickets, in -- these don't consider whatever
23 notices, if any, these 57,600 Cox subscribers may have received
24 prior to 2012; is that correct?

25 A. Could you repeat that? I didn't --

1 Q. Sure. If any of these 57,600 Cox subscribers had
2 copyright infringement tickets prior to January 1, 2012, would
3 that be depicted here in your analysis?

4 A. Prior to January 1, 2012?

5 Q. Yes.

6 A. Yeah, they would be included.

7 Q. Well, but you just said a moment ago that your -- that the
8 data only is for 2012 to '14, correct?

9 A. I'm sorry, yes. I had it reversed.

12:56:55 10 So it does not include data before -- the Cox data
11 that we have starts 2012, ends 2014, those entire three years.
12 And anything outside that range, I did not have data for those.

13 Q. Okay. So let's move on to your -- and so, relating these
14 two slides, out of the 57,600, the Cox ticket data showed you
15 that Cox terminated only 13 of that pool; is that correct?

16 A. That's what the data say, yes.

17 Q. And that's -- and the ticket distribution includes those
18 that received ten or more, 13 or more, 14, correct?

19 A. That's correct.

12:57:46 20 Q. So -- okay. So out of the -- let's turn to your next --
21 the third of your five areas.

22 THE COURT: You know, what don't we stop here before
23 you get into the third area.

24 MR. ZEBRAK: Oh, sure.

25 THE COURT: We're almost at 1 o'clock.

1 MR. ZEBRAK: Yes, sir.

2 THE COURT: So let's take our lunch break. We'll
3 come back at 2 o'clock. All right.

4 Thank you, you're excused.

5 NOTE: At this point the jury leaves the courtroom;
6 whereupon the case continues as follows:

7 JURY OUT

8 THE COURT: All right. So anything before we recess?
9 Okay. Then we have a --

12:58:56 10 MS. LEIDEN: Sorry, Your Honor.

11 THE COURT: Yes.

12 MS. LEIDEN: One issue from defendants, briefly.

13 Plaintiffs intend to call by video deposition Jason
14 Zabek. And depending on witnesses that go today, that video
15 may be at least started today.

16 The parties have exchanged designations and various
17 objections, and we have -- we are going to try to work out any
18 remaining objections that we have prior to the video
19 deposition. But we wanted to raise to your attention that
12:59:24 20 there may be remaining objections to deposition testimony and
21 exhibits that we will need to resolve with Your Honor before
22 the video begins to be played.

23 THE COURT: Okay. So any of the text of the video
24 that you still object to, get it to me as soon as you can and
25 give me an opportunity to look at it and rule on it. And if

1 you need -- if you want to be able to argue it, I'll give you a
2 brief time to do that.

3 And for the other deposition designations that are
4 still being worked on, try and get them to me the night before
5 so that you have an opportunity to splice and put them together
6 not at the last -- they're videos, right? They're not just
7 transcripts?

8 MR. OPPENHEIM: They are, Your Honor. And this, in
9 part, is plaintiffs' fault because last night we tried to cut
10 back and shorten that video because it's far too long for, I
11 think, anybody's desire.

12 So that's why we didn't get it to you in advance.
13 Our apologies.

14 THE COURT: Okay. All right. So -- yes, sir.

15 MR. ELKIN: A related point, Your Honor, is that
16 currently as it stands, it's about four hours. And I'm not
17 being critical of it. But all I'm suggesting is the following.
18 We have from Atlanta and from Hampton Roads, I think, we've got
19 Ms. Trickey, Mr. Carothers --

20 THE COURT: Mr. Cadenhead.

21 MR. ELKIN: -- Mr. Vredenburg. And if it's going to
22 be a four-hour video and these witnesses are already here --
23 and I'm mindful of the fact that it's their strategy, they want
24 to put the witnesses in their order, and I respect that, but if
25 these witnesses are already here out of town. I would just ask

1 the Court to consider how that -- how we proceed.

2 THE COURT: Yeah. If putting this video on before
3 those witnesses involves having that jury sit and twiddle their
4 thumbs while we're going through objections, then I'm not going
5 to permit it. We're going to do it with live witnesses.

6 And after they're done, after we send the jury home,
7 we can go through the deposition designation objections.

8 This case has been going on a long time, and the last
9 thing that I'm going to permit is us to have the jury sitting
10 around while we're yakking about whether something is
11 objectionable.

12 So thank you for bringing that to my attention.

13 All right. So I have a plea. The defendant is in
14 custody. So the, you know, pencils and that kind of stuff
15 probably aren't a good idea.

16 All right. We're in recess.

17 NOTE: The morning portion of the case on December 5,
18 2019, is concluded.

19 CERTIFICATE OF COURT REPORTERS

20
21 We certify that the foregoing is a true and
22 accurate transcription of our stenographic notes.

23 /s/ Norman B. Linnell
24 Norman B. Linnell, RPR, CM, VCE, FCRR

25 /s/ Anneliese J. Thomson
Anneliese J. Thomson, RDR, CRR

1 critical. Right. But if you don't download, you can't verify.
2 There's nothing to verify.

3 So the fact that the software failed to download
4 anything means that it can't verify anything. It actually has
5 no idea what the peer is actually -- what it actually has.

6 Q. Okay. Did you prepare a slide that summarized the
7 evidence you saw with respect to whether or not the Cox
8 implementation performed the download that the CAS
9 implementation utilized?

10 A. I did.

11 Q. Okay.

12 A. That was in the evidence packages that we've been talking
13 about.

14 Q. What does this slide show?

15 A. Right. So as part of -- as part of my analysis, I
16 reviewed the evidence packages that were prepared by
17 MarkMonitor and given to me, totaling more than 175,000
18 evidence packages. So we looked at an example of one of those
19 earlier.

20 And then, basically, I looked at a number of things
21 in those evidence packages, including the content info file
22 that we just looked at in all of them. There's an indication
23 there of what was downloaded and what was verified.

24 Okay. So that -- those files indicated that for all
25 but 143 of them, MarkMonitor software, in this case, did not

1 perform a download. So, essentially, almost no downloads were
2 performed as a -- as part of producing this evidence.

3 Q. Did you also examine the software to confirm your analysis
4 of the evidence packages?

5 A. I sure did. I'd be happy to talk about that.

6 Q. Did your review of the software -- was it consistent with
7 what you saw in the evidence packages?

8 A. That's an interesting question. So the software, of
9 course -- there's software and then how it's configured.

10 Right. Okay. So I saw some interesting things in the
11 software. Okay.

12 Among them were some variables, including variables
13 that would basically control whether or not the software would
14 perform a download. And if it performed the download, was
15 there a threshold of how much the -- you know, the software --
16 the agent was to download.

17 So in examining the source code, I couldn't tell
18 precisely how those variables were set, and no information was
19 provided to me regarding the configuration of the software.

20 MR. ZEBRAK: Objection, Your Honor. May we have a
21 sidebar on this?

22 THE COURT: Approach the bench.

23 NOTE: A sidebar discussion is had between the Court
24 and counsel out of the hearing of the jury as follows:

25 AT SIDEBAR

1 THE COURT: Okay.

2 MR. ZEBRAK: Your Honor, and I suspect this will be
3 an issue with these other experts as well, they want to have
4 their experts bring in non-raised discovery disputes and
5 essentially claim that they were unable to do their review.

6 And Your Honor already told counsel not to bring in
7 discovery disputes. It's not even a discovery dispute. It's a
8 nonraised discovery dispute. And I suspect this is the first
9 of several. He has already done this now several times.

10 MR. BRODY: I'll move to strike the answer.

11 MR. ZEBRAK: Right.

12 MR. BRODY: I wasn't expecting that response. I just
13 wanted him to say that he looked at the software, if it had the
14 capability of doing the downloads or not, and that the evidence
15 packages --

16 THE COURT: Did he -- did you get that software that
17 he looked at and --

18 MR. BRODY: Yeah, yeah, yeah. For this software, I
19 thought he actually had the software. He did not have the
20 portions that he referred to.

21 THE COURT: Right. Okay. All right. Let's strike
22 the last answer. And ask -- and we're not going to get into
23 this discovery disputes about what you got or what you didn't
24 get. We're going to live with what we got in the testimony
25 here.

1 MR. BRODY: Yes, sir.

2 THE COURT: All right. Thank you.

3 NOTE: The sidebar discussion is concluded; whereupon
4 the case continues before the jury as follows:

5 BEFORE THE JURY

6 MR. BRODY: Your Honor, I move to strike the last
7 response.

8 THE COURT: All right. That's granted.

9 BY MR. BRODY: (Continuing)

10 Q. Dr. Feamster, I just want to focus very narrowly on
11 whether your review of the software for the step three process
12 was consistent with what you saw in the evidence packages?

13 A. Yes, it was.

14 Q. And did you reach a conclusion about whether or not the
15 Cox implementation of MarkMonitor's system differed from the
16 CAS implementation with respect to step three?

17 A. My conclusion was that it was possible to configure the
18 software to behave in different ways with respect to
19 downloading, and that the configuration for Cox -- for the Cox
20 manner was different. It did not perform the downloads.

21 Q. Okay. Thank you very much.

22 Did you -- have you prepared a slide that summarizes
23 your view about the importance of downloading and verifying a
24 piece of the file from the peer computer, the subscriber's
25 computer?

1 A. I have.

2 Q. What is your view on that subject?

3 A. My opinion is that downloading and verifying at least a
4 piece of the file is an essential piece of the BitTorrent
5 protocol. It's also an essential piece of MarkMonitor's
6 Copyright Alert System method for detecting infringement.

7 Q. And did you prepare a slide that illustrates why that's
8 the case?

9 A. Yes.

10 Q. What does the slide illustrate?

11 A. So we've talked about this in some detail earlier, so I'll
12 just recap a bit.

13 But just to restate what I had said before, there are
14 significant reasons to be concerned about whether a peer
15 actually has a copy of the file that it claims to have. There
16 are a number of reasons why it might not. File corruption is
17 one. Peers lying about pieces that they may or may not have is
18 another. And as I said before, is quite likely that that could
19 happen.

20 Q. How likely is the -- is the corruption issue -- how likely
21 is the corruption issue?

22 A. That is much less likely. Okay. I would say maybe --
23 this is, at most, 1 percent. It's probably even less than
24 that. There are mechanisms in place to correct for those types
25 of errors as well. So --

1 Q. So do you -- okay. Thank you. Which do you think is the
2 more important problem?

3 A. The lying peers aspect is far more likely, is far more
4 important. In this particular matter, it's more prevalent.
5 And there has been a lot of research on that.

6 Q. Okay. The -- did that -- this analysis --

7 THE COURT: I'm going to strike the -- his second
8 part of his answer about any --

9 MR. BRODY: About the research?

10 THE COURT: Yeah.

11 MR. BRODY: Yes, sir.

12 THE COURT: Listen to the question and answer the
13 question, please.

14 THE WITNESS: I'm sorry.

15 BY MR. BRODY: (Continuing)

16 Q. The -- did you prepare a slide that summarizes your --
17 well, I'm going to skip past this slide.

18 Did you prepare a slide -- just save a few minutes --
19 that summarizes your opinion about the reliability of the
20 MarkMonitor system as implemented for Cox?

21 A. Yes, I did.

22 Q. And is this the slide?

23 A. That's it.

24 Q. What is your conclusion?

25 A. If the MarkMonitor software did not perform a download, if

1 it didn't download at least a piece of the file from that peer,
2 there is no basis for the software to conclude that that file
3 is what the peer says it is.

4 Q. Well, the jury heard some testimony about the ability to
5 use a SHA-1 hash to perform a verification. Have you prepared
6 a slide that addresses that issue?

7 A. Yeah, let's talk about that next.

8 Q. What does this slide show?

9 A. Okay. What I'm going to do is summarize a little bit
10 here. So -- and refer to some of my earlier testimony. Okay.

11 So, a SHA-1 hash -- you can think about a hash value
12 as basically just a compact representation, or basically a name
13 or a label for a bigger file. Okay. It's -- if those two
14 things correspond, the SHA-1 hash is based on a computation
15 of what's in the file.

16 But in the absence of that computation, a SHA-1 hash
17 is just a string of bits. And if I know what that value is,
18 right, if I'm interested in saying, I've got Bill Wither, "Lean
19 on Me," and I know the corresponding hash for that, then I
20 could just say, I've got Bill Withers, "Lean on Me," here's the
21 SHA-1 hash, and it's up to you to check it. Okay.

22 You could perform that computation and say, ah, it
23 doesn't match, right, it's something else. But if you don't
24 perform that computation, it doesn't mean much.

25 Q. Okay. And did MarkMonitor perform that computation for

1 Cox?

2 A. Not for Cox.

3 Q. Let's talk about step four.

4 A. Can I clarify my -- no, please go ahead, I'm sorry.

5 Q. Trust me, you'll get plenty of questions related to
6 verification.

7 A. Thank you.

8 Q. So let's talk about step four. What -- what happens in
9 step four of the Cox -- or really either of the systems?

10 A. Right. So we talked about this already, so I'll just
11 briefly recap. Right.

12 So the process -- at some point the process is
13 reaching a conclusion that some machine on the Internet, some
14 peer has an infringing file in whole or in part, and that it's
15 sitting on an IP address that is part of the Cox network.
16 Okay.

17 If it reaches that conclusion, then the e-mail notice
18 is sent. And a notice is sent to the ISP, to Cox in this case.

19 Q. Okay. And have you prepared a slide illustrating how
20 that -- what happens in that process for a business subscriber
21 to Cox?

22 A. Sure, yeah. Let's talk about that.

23 Q. What does this slide show?

24 A. Okay. So on the Internet there is -- there are devices,
25 hosts, machines, homes, et cetera, connected to the network.

1 And in its simplest form, you know, any connected device has an
2 IP addresses and -- let me back up.

3 What -- the goal, right, is ultimately to match the
4 IP address to a subscriber, an individual, somebody who is
5 basically doing the infringement. However, there is technology
6 in the Internet, there's something called network address
7 translation, or NAT, right, that allows a single IP address to
8 basically, you know, act as the connection point for many, many
9 other individuals and devices.

10 So actually most home networks even operate like
11 this, but more importantly, you know, a business might be
12 behind a NAT.

13 Q. Okay. And when a notice is directed to an IP address that
14 is a NAT, where does the notice go? What's illustrated on this
15 slide about where the NAT goes?

16 A. On this slide, what we're looking at here is basically a
17 school or some kind of organization, but the organization
18 basically is buying Internet service from Cox. That
19 organization may have many, you know, many connected end
20 points. And the notice is basically going to some, presumably
21 some e-mail address that's associated with that organization.

22 Q. And have you prepared a variation on this slide that
23 illustrates what information that notice gives you about the
24 individuals who are actually doing, supposedly doing the
25 infringing?

1 A. Sure.

2 Q. What does the notice show?

3 A. Right. So that, that individual IP address says nothing
4 about, you know, who behind that NAT actually is engaging in
5 that behavior.

6 Q. Okay. Have you prepared a slide that summarizes your
7 concerns about the way the MarkMonitor system was implemented
8 for Cox?

9 A. Yes.

10 Q. What does this slide show?

11 A. So to summarize, and to contrast with the -- with what
12 MarkMonitor did for CAS, the first two steps were substantially
13 the same. The problems come in the subsequent steps. And in
14 particular, the failure to verify that a Cox subscriber was
15 actually sharing a piece of an infringing work, in particular
16 the failure to download content, which is a prerequisite for
17 doing that verification, is a critical missing link in this
18 process.

19 Q. And finally, did you prepare a slide that states your
20 conclusion about the MarkMonitor system as implemented for Cox?

21 A. Yes, I did. Based on what I just summarized, it's my
22 opinion there's no reliable evidence that Cox subscribers were
23 sharing copies of the plaintiffs' works.

24 MR. BRODY: I tender the witness, Your Honor.

25 THE COURT: All right, thank you.